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PREFACE

The present work is not the first comparative dictionary of North Caucasian languages (for East Caucasian cf. Leksika 1971, Khaidakov 1973; for part of West Caucasian see Kuipers 1975), but certainly the first etymological dictionary with systematic reconstructions. See the "Introduction" below for the outline of North Caucasian classification and comparative phonology.

The dictionary is an outprint from a computer database on North Caucasian languages, which actually is a system of interrelated database files on every subgroup of North Caucasian languages. This determines the structure of an average etymological entry which is the following:

1) Proto-North Caucasian reconstruction. If there are no Western Caucasian reflexes, we give only the Proto-East Caucasian reconstruction (it should be noted, that, in general, Proto-East Caucasian and ProtoNorth Caucasian differ only in a few minor details, see below);

2) The reconstructed meaning (the semantic reconstruction is of course quite tentative; we do not pretend that meanings can be exactly reconstructed in most cases).

3) Reflexes in daughter protolanguages, as well as in isolated Lak and Khinalug languages. If a root is attested only in one language of some subgroup (e.g., in Tindi, but in none of the other Andian languages), we still give a tentative reconstruction for that subgroup. It must be stressed that, for convenience, we grouped Avar together with Andian languages, although we do not present any Avaro-Andian reconstruction (only Proto-Andian). It should be kept in mind that the Avar forms do not go back directly to the Proto-Andian reconstructions. Therefore the tentative "Proto-Andian" forms, given in cases when the Avar form alone is attested, are doubly tentative (because no Andian forms are attested at all). Still we list them for uniformity's sake.

4) Within each subgroup we list reflexes in basic languages and dialects (see below). The reflexes are preceded by a list of enumerated meanings, and the respective numbers are repeated after particular reflexes (to avoid repetition).

The list of reflexes is followed by comments that include all additional information: semantic nuances, forms from other dialects, references and discussion. It is important to note that some existing intermediate reconstructions are also systematically given within the commentary: this concerns Proto-Gunzib-Bezhta, Proto-Tsezi-Khvarshi, Proto-Abkhaz-Tapant and Proto-Adyghe-Kabardian.

5) Every etymological entry is concluded by a general comment (with the same kind of information, but concerning the entry as a whole).

The corpus of the dictionary is followed by indices for every language — which, we are happy to say, were made with the help of a computer.

For Caucasian languages it is highly important to use the most reliable sources available, because in many early sources (such as all records of Dirr), as well as in some later ones (such as Khaidakov 1973 or Leksika 1971), phonetic transcription is

highly inaccurate and may be misleading. Throughout the dictionary we apply the following method of citation: for every language a single dialect and a single source is chosen as a standard. If relevant data from other dialects and/or sources are available, we give the reference explicitly (as an abbreviation). Below we list NC languages with a brief description of sources. Basic dialects are given in bold type.

1. Abkhaz

Abzhui dialect: The basic source, against which everything was tested, is now Shakryl-Kondzharia 1986-1987. Earlier the basic source was Bgazhba 1964a; Dzhanashia 1954 was also frequently used, less often — Uslar 1887.

Bzyb dialect: The basic source is Bgazhba 1964b; Marr 1926 was also used (although the quality of records is poorer here). In 1980 one of the authors (S. A. Starostin) made his own recordings of the Bzyb dialect. Unfortunately, it was a Bzyb sub-dialect that lost hissing-hushing sibilants (the special archaic feature of Bzyb), which is why we seldom use these field records in the present dictionary.

2. Abaza

Tapant dialect. The basic source is Tugov 1967. Also used was Gonov 1956, as well as field recordings made by one of the authors (S. A. Starostin) in 1981. The data of the Ashkhar dialect are not described systematically and were utilized only occasionally.

3. Ubykh.

The basic source is Vogt 1963.

4. Adyghe.

Temirgoi dialect (literary Adyghe). The basic source is Vodozhdokov 1960. Less frequently we also used Kerasheva-Khatanov 1960.

A regular source for Bzhedug data is Kuipers 1975. Kuipers' dictionary also contains some Shapsug data, although there does not exist a systematic recording of Shapsug. The Abadzekh dialect (rather close to Temirgoi) is also not described systematically.

5. Kabardian (Circassian)

Dialect of the **Great Kabarda** (literary Kabardian): the basic source was Kardanov 1957 (as well as Bichoyev-Kardanov 1955). A source which was also utilised is Nogma 1956 (actually recorded in 1844 by A. M. Schögren, after Sh. Nogma's death).

Other Kabardian dialects (Mozdok, Beslene, Kuban) are not described systematically, but according to existing records they are quite close to literary Kabardian.

6. Batsbi

The basic source, against which all data were tested, is Kadagidze 1984. Other important sources are: Matsiyev 1932, Desheriyev 1953, Imnayshvili 1977, Schiefner 1856.

7. Chechen

Level-land dialect (literary Chechen): the basic source is Matsiyev 1961. Also useful in some cases is Karasayev-Matsiyev 1978; very valuable information is contained in Uslar 1888.

Data on all other Chechen dialects (Akka, Cheberlo, Melkhi, Itumkala, Galanchozh, Kista, Sharo, Khildikharo) were taken from Imnayshvili 1977.

8. Ingush

The primary source for Ingush is Dzhamalkhanov-Matsiyev-Ozdoyev 1962. Two other valuable sources are Matsiyev-Ozdoyev 1966 and Ozdoyev 1980.

9. Andi

Upper Andi (Andi proper). The basic source is now the vocabulary contained in Kibrik-Kodzasov 1988, 1990. We used also the data from Tsertsvadze 1965 (although there is no vocabulary there and one has to pick out Andi data from the text passim), as well as (with caution!) Dirr 1903. Extensive data on Andi, as well as on other Andian languages, are contained in Gudava 1964.

Data on other Andi dialects (Munib, Kvankhidatl) are occasionally found in Gudava 1964 and Tsertsvadze 1965, but are not described systematically.

10. Botlikh

The vocabulary of **Botlikh** proper is taken from Gudava 1962. The Miarsu dialect is not described systematically (occasional forms are taken from ibid. and Gudava 1964).

11. Godoberi

The vocabulary of **Godoberi** proper is taken from Saidova 1973. The Ziberkhala dialect is not described systematically (occasional forms are cited from Gudava 1964).

12. Karata

The basic source for **Karata** proper is Magomedbekova 1971. Occasional data from the Tokita dialect are cited from Gudava 1964.

13. Akhvakh

Northern Akhvakh: the primary source is Magomedbekova 1967. We also used the Akhvakh nominal recordings contained in Kibrik-Kodzasov 1990.

Vocabulary of other dialects of Akhvakh (Ratlub, Southern Akhvakh with the sub-dialects Tlanub and Tsegob) is rather systematically collected in Magomedbekova 1967; also valuable is, of course, Gudava 1964.

14. Bagvalal

Gemerso dialect: the basic source is Gudava 1971, as well as Gudava 1964. Both books contain some forms of other dialects: Kvanada, Tlondoda-Khushtada, Tlissi-Tlibisho.

15. Tindi

Tindi proper: the primary source is Kibrik-Kodzasov 1988, 1990 (we should perhaps mention that the data contained there were collected by the authors themselves during the MSU expedition of 1975).

The MSU expedition also collected some vocabulary of the Aknada dialect; some very sparse data on the Angida dialect are contained in Gudava 1964. However, there are no systematic recordings, and we rarely utilize this information in the dictionary.

16. Chamalal

Lower Gakvari dialect: the primary source is Kibrik-Kodzasov 1988, 1990, complemented by Bokarev 1949. The MSU expeditions also collected some vocabulary of the Upper Gakvari dialect (although it is still unpublished), as well as vocabulary of the more archaic Gigatl dialect. Some dialectal data (from Upper Gakvari, Gadyri, Gigatl) are also contained in Bokarev 1949 and Gudava 1964.

17. Avar

Khunzakh dialect (literary Avar): the basic source is Saidov 1967. Also used were Zhirkov 1936, Mikailov-Saidov 1951, Uslar 1889 (the latter source actually describes the Salatav subdialect of Khunzakh).

Of the numerous Southern Avar dialects only the Antsukh dialect was described more or less systematically. We cite its forms (from the Chadakolob subdialect) from Kibrik-Kodzasov 1988, 1990. All other Southern Avar dialectal forms (for the

Karakh, Andalal, Gid, Keleb, Untib, Shulani dialects) are taken from Mikailov 1959.

18. Tsezi

Kidero dialect: most Tsezi sources are recorded in Kidero. We do not note the source explicitly if the Tsezi form was taken from Bokarev 1959 or Imnayshvili 1963 (virtually identical idiolects were recorded); the mark Kid. is reserved for the forms cited from Kibrik-Kodzasov 1988, 1990, slightly differing from earlier records.

Forms from other dialects (Shaitl, Asakh, Shapikh, Sagada) are taken mainly from Imnayshvili 1963.

19. Ginukh

The main source is Lomtadze 1963; much information is also contained in Bokarev 1959.

20. Khvarshi

Khvarshi proper: until recently the basic source was Sharafuddinova-Levina 1961, as well as some scarce data in Bokarev 1959. However, due to Ramazan Nadzhipov, all forms were checked and many new forms collected in Khvarshi in summer 1992.

Other dialects (Inkhokvari, Kvantlada, Santlada) actually belong to Inkhokvari, which we regard as a distinct language, not a dialect of Khvarshi.

21. Inkhokvari

Inkhokvari proper: the main source is Kibrik-Kodzasov 1988, 1990 (just like the Tindi data, the nominal part of Inkhokvari records was taken down by the authors during the 1975 MSU expedition).

Occasional data from other dialects (Kvantlada, Santlada) are cited from Bokarev 1959.

22. Bezhta

Bezhta proper: the basic source is Madiyeva 1965; Bokarev 1959 was also used.

For the Khoshar-Khota and Tladal dialects the principal source is Kibrik-Kodzasov 1988, 1990.

23. Gunzib

Gunzib proper: the basic source is Bokarev 1961a. Kibrik-Kodzasov 1988, 1990 also contain records of the Gunzib dialect: forms taken from this source are marked

Gunz. (forms from Bokarev 1961a are left unmarked).

Occasionally we also cite unpublished expedition materials on the Nakhada dialect of Gunzib (very close to Gunzib proper).

24. Lak

Kumukh dialect (literary language): the main source is Khaidakov 1962. This dictionary is quite extensive and the forms are well recorded (except, unfortunately, labialisation which is poorly noted in most sources), so we used other sources on Kumukh (Murkelinski 1953, Uslar 1890) only occasionally.

We frequently use the MSU data (Kibrik-Kodzasov 1988, 1990) on the Khosrekh dialect (more or less regularly preserving labialisation). Forms from all other Lak dialects (Bartkhi, Vitskhi et al.) are taken from Khaidakov 1966.

25. Dargwa

Akushi dialect: all forms cited from Abdullayev 1950.

Systematically recorded are also data of the Urakhi dialect (called Khürkili by Uslar 1892), as well as data of the Chirag dialect (a subdialect of Amukh, recorded in Kibrik-Kodzasov 1988, 1990). We should note that in some of the entries the Urakhi data are sometimes adduced, when the Akushi data are not available. A notation like "Ak. abʔa (Ur.)" is equivalent to "Ur. abʔa". We were unfortunately not able to include the latest MSU recordings of the Megeb dialect.

Forms of all other dialects are basically cited from Musayev 1978.

26. Lezghi

Northern dialect (literary Lezghi). The main source is Talibov-Gadzhiyev 1966 (with occasional additions from Gadzhiyev 1951 and, very rarely, from Uslar 1876). Literary Lezghi is actually a mixture of all Northern dialects (Güne, Yarki and Kurakh); forms from these dialects, when attested, are taken from Meilanova 1964 and Gaidarov 1963.

Forms from the Khliut subdialect of the Akhty dialect are cited from Kibrik-Kodzasov 1988, 1990; other Akhty forms, as well as forms from other Southern dialects (Samur, Kuba) are taken from Meilanova 1964 and Gaidarov 1963.

27. Tabasaran

Southern dialect (literary Tabasaran). The most extensive source is Khanmagomedov 1957. We also use Kibrik-Kodzasov 1988, 1990, containing records of the Kandik subdialect of Southern Tabasaran (one of the authors, S. Starostin, took part in collecting them in 1974).

For the Northern dialect we possess systematic MSU recordings of the Dübek subdialect (Kibrik-Kodzasov 1988, 1990) and of the Khanag subdialect (Uslar 1979 — a manuscript published more than a hundred years after it was written). Data of other subdialects can be occasionally found in Magometov 1965.

28. Agul

Keren dialect (Richa subdialect): the basic source is Kibrik-Kodzasov 1988, 1990. The same source also contains systematically recorded data of the Koshan dialect (Burshag subdialect), as well as nominal recordings of the Gekkhun (Burkikhan) and Fite dialects. Verbal recordings, as well as recordings of Agul proper (Tpig subdialect) were also done by the MSU expeditions, but for some reason were left unpublished.

Other sources for Agul, that we have used less extensively, are: Dirr 1907 (rather poor quality of records), Shaumyan 1941 and Magometov 1970. We also used field records of the Kurag dialect that were kindly supplied by M. Y. Alekseyev.

29. Rutul

Mukhad dialect (Luchek subdialect): the basic source is Kibrik-Kodzasov 1988, 1990. We should note that one of the authors (S. Starostin) took part in collecting Luchek vocabulary during the expedition of 1974.

Data of the Mishlesh subdialect were kindly presented to us by M. Y. Alekseyev. The MSU expeditions collected also forms from other dialects (Shinaz, Ikhrek, Khnov) which we use in this dictionary although they are still unpublished. However, most data from dialects other than Luchek are taken from Ibragimov 1978 (it is worth noting that the latter source contains also some valuable Tsakhur recordings).

30. Tsakhur

Mikik dialect: the basic source is Kibrik-Kodzasov 1988, 1990. For some reason Mikik verbs were left unpublished in this edition, although they were collected by the MSU expedition of 1974; we cite them from our cardfiles.

Kibrik-Kodzasov 1988, 1990 present also a systematic description of the vocabulary of Tsakhur proper, as well as nouns from the Gelmets dialect.

The only other existing source of Tsakhur vocabulary is the highly unreliable work by Dirr (Dirr 1913), which we preferred not to utilize.

31. Kryz

Kryz proper: data taken from Kibrik-Kodzasov 1988, 1990 (the authors have themselves collected Kryz lexical data during the MSU expedition of 1977).

Occasionally cited are materials from the Alik dialect, collected by the same expedition, but not yet published. Other dialects (Dzhek and Khaputli) were not recorded systematically.

32. Budukh

All data contained in the dictionary were taken from Kibrik-Kodzasov 1988, 1990 and checked with Meilanova 1984.

33. Archi

At present the most authoritative and extensive source is Kibrik-Samedov 1977. A few words (for some reason left out of Kibrik-Samedov 1977) were taken from Mikailov 1967 and from Dirr 1908 (a highly unreliable source).

34. Udi

Nidzh dialect: the basic source is Gukasyan 1974. All data were checked with Dzheiranishvili 1971 and Kibrik-Kodzasov 1988, 1990 (we avoided using the highly unreliable recordings of Dirr 1904).

All forms from the Vartashen dialect are also cited from Gukasyan 1974.

35. Khinalug

At present the principal source is Kibrik-Kodzasov 1988, 1990 (containing more data and more accurately recorded than Kibrik-Kodzasov-Olovyannikova 1972).

All Hurro-Urartian data contained in the dictionary duplicate the materials in Diakonoff-Starostin 1986 (with some minor corrections).

Throughout the text of the dictionary we use names of researchers while citing forms from some non-basic sources. Following conventions are being observed:

(Bokarev) stands for Bokarev 1959 (for all Tsezian languages)
(Bokarev) stands for Bokarev 1949 (for Chamalal)
(Gudava) stands for Gudava 1964 (for all Andian languages)
(Desheriyev) stands for Desheriyev 1953 (for Batsbi)
(Ibragimov) stands for Ibragimov 1978 (for Rutul and Tsakhur)
(Imnayshvili) stands for Imnaishvili 1963 (for Tsezi)
or for Imnayshvili 1977 (for all Nakh languages)
(Isakov) stands for Isakov-Khalilov 1986 (for Tsezian)
(Khaidakov) stands for Khaidakov 1973 (for all EC languages)
(Leksika) stands for Leksika 1971 (for all EC languages)
(Lomtadze) stands for Lomtadze 1963 (for Ginukh)
(Madiyeva) stands for Madiyeva 1965 (for Bezhta)
(Magometov) stands for Magometov 1965 (for Tabasaran)
or for Magometov 1970 (for Agul)
(Marr) stands for Marr 1926 (for Abkhaz)
(Matsiyev) stands for Matsiyev 1932 (for Batsbi)
(Radzhibov) stands for Ramazan Radzhibov's records (for Tsezi and Khvarshi)
(Shaumyan) stands for Shaumyan 1941 (for Agul)
(Schiefner) stands for Schiefner 1856 (for Batsbi)
(Tsertsvadze) stands for Tsertsvadze 1965 (for Andi)

(Uslar) stands for Uslar 1876 (for Lezghi);
    for Uslar 1887 (for Abkhaz);
    for Uslar 1888 (for Chechen);
    for Uslar 1889 (for Avar);
    for Uslar 1892 (for Dargwa);
    for Uslar 1979 (for Tabasaran).

Throughout the text of the dictionary we use a unified phonetic transcription, developed specially for Caucasian languages. It is basically the same transcription as in Kibrik, Kodzasov 1988, 1990, but with an important distinction: glottalized consonants are marked with a ˎ, not with an apostrophe (monosymbolic writing places groups glottalization together with basic laryngeal features, such as voice or voicelessness, and distinguishes it from complementary features, like tenseness or palatalization). What is listed below simultaneously represents the alphabetical order accepted in the dictionary.

NB: Computer data handling has its drawbacks. Within the whole text of the dictionary the end of the word is treated as a special symbol, being the last in the alphabet (thus, e.g., *q̇a* comes after *q̇at*, not before). When this flaw was discovered, it was already too late to reorder all the entries in the dictionary and in the indices. The reader should keep in mind this peculiarity.

ʔ — glottalized laryngeal (glottal) stop

ʔʷ — same, labialized

ʕ — voiced emphatic laryngeal fricative

ʕʷ — same, labialized (in Abkhaz — also palatalized)

ʡ — glottalized emphatic laryngeal stop

ʡʷ — same, labialized

a — back low unrounded vowel (short or irrelevant as to the length distinction)

ă — same, but short

ā — same, but long

ä — front low unrounded vowel (short or irrelevant as to the length distinction)

ä̆ — same, but short

ǟ — same, but long

A — some back unrounded vowel (symbol used in reconstructions)

Ă — some back short unrounded vowel (symbol used in reconstructions)

Ā — some back long unrounded vowel (symbol used in reconstructions)

b — voiced labial stop

b́ — same, palatalized

bʷ — same, labialized

b́ʷ — same, labialized and palatalized

b: — tense voiced labial stop

c — voiceless (aspirated) hissing affricate

cʷ — voiceless (aspirated) labialized hissing affricate

ć — voiceless (aspirated) hissing-hushing (= palatalized) affricate

ćʷ — voiceless (aspirated) palatalized labialized hissing affricate

ćᵛ — voiceless (aspirated) dentolabialized hissing-hushing affricate

c: — tense (unaspirated, but in Avaro-Andian languages — aspirated) hissing affricate

c:ʷ — tense (unaspirated, but in Avaro-Andian languages — aspirated)

labialized hissing affricate
    ć: — tense (unaspirated) hissing-hushing (= palatalized) affricate
    ć:ʷ — tense (unaspirated) palatalized labialized hissing affricate
    C — some consonant (symbol used in reconstructions)
    ç — lax glottalized hissing affricate
    çʷ — lax glottalized labialized hissing affricate
    ɕ — lax glottalized hissing-spirated) palatalized labialized hissing affricate
    ɕʷ — lax glottalized palatalized labialized hissing affricate
    ɕᵛ — lax glottalized dentolabialized hissing-hushing affricate
    ç: — tense glottalized hissing affricate
    ç:ʷ — tense glottalized labialized hissing affricate
    č — voiceless (aspirated) hushing affricate
    čʷ — voiceless (aspirated) labialized hushing affricate
    č� — voiceless (aspirated) palatalized hushing affricate
    č̓ʷ — voiceless (aspirated) palatalized labialized hushing affricate
    čᵛ — voiceless (aspirated) dentolabialized hushing affricate
    č: — tense (unaspirated) hushing affricate
    č:ʷ — tense (unaspirated) labialized hushing affricate
    č̓: — tense (unaspirated) palatalized hushing affricate
    č̓:ʷ — tense (unaspirated) palatalized labialized hushing affricate
    č:ᵛ — tense (unaspirated) dentolabialized hushing affricate
    ç — lax glottalized hushing affricate
    çʷ — lax glottalized labialized hushing affricate
    ç̌ — lax glottalized palatalized hushing affricate
    ç̌ʷ — lax glottalized palatalized labialized hushing affricate
    çᵛ — lax glottalized dentolabialized hushing affricate
    ç: — tense glottalized hushing affricate
    ç:ʷ — tense glottalized labialized hushing affricate
    d — voiced dental stop
    d́ — same, palatalized
    dʷ — same, labialized
    d́ʷ — same, palatalized and labialized
    d: — tense voiced dental stop
    δ — voiced interdental fricative
    e — front mid-low unrounded vowel (short or irrelevant as to the length distinction)
    ĕ — same, but short
    ē — same, but long
    E — some front unrounded vowel (symbol used in reconstructions)
    Ĕ — some front short unrounded vowel (symbol used in reconstructions)
    Ē — some front long unrounded vowel (symbol used in reconstructions)
    ə — mid mid-low unrounded vowel (short or irrelevant as to the length distinction)
    ə̆ — same, but short

ə̄ — same, but long

f — voiceless labial fricative

f: — tense (voiceless) labial fricative

g — voiced velar stop

ǵ — same, palatalized

gʷ — same, labialized

ǵʷ — same, palatalized and labialized

g: — tense voiced velar stop (affricate)

G — voiced uvular stop (affricate)

Ǵ — same, palatalized

Gʷ — same, labialized

Ǵʷ — same, palatalized and labialized

G: — tense voiced velar stop (affricate)

ɣ — voiced velar fricative

ɣ́ — same, palatalized

ɣʷ — same, labialized

ɣ́ʷ — same, palatalized and labialized

h — voiceless laryngeal fricative

hʷ — same, labialized

H — some laryngeal (symbol used in reconstructions)

ħ — voiceless emphatic laryngeal fricative

ħʷ — same, labialized

ɦ — voiced laryngeal fricative

ɦʷ — same, labialized

i — front high unrounded vowel (short or irrelevant as to the length distinction)

ĭ — same, but short

ī — same, but long

i̯ — palatal glide

I — after any vowel or consonant signifies pharyngealization

ɨ — mid high unrounded vowel (short or irrelevant as to the length distinction)

ɨ̆ — same, but short

ɨ̄ — same, but long

j — palatal resonant

k — voiceless (aspirated) velar stop

ḱ — same, palatalized [in Tindi: palatal]

kʷ — same, labialized

ḱʷ — same, palatalized and labialized

k: — tense (unaspirated) velar stop [but in Avaro-Andian languages except Tindi — tense velar affricate]

ḱ: — same, palatalized [in Tindi — palatal]

k:ʷ — same, labialized

ḱ:ʷ — same, palatalized and labialized

ķ — glottalized velar stop

ḳ́ — same, palatalized [in Tindi — palatal]

ķʷ — same, labialized

ḳ́ʷ — same, palatalized and labialized

ķx — glottalized velar affricate (symbol used only in some intermediate reconstructions)

ḳ: — tense glottalized velar affricate

ḳ:ʷ — same, labialized

K — some back (velar or uvular) consonant (symbol used in reconstructions)

l — lateral resonant

ĺ — same, palatalized

ł — lateral resonant or glide (symbol used only in reconstructions)

ƛ — voiceless (aspirated) lateral affricate

ƛ́ — same, palatalized

ƛʷ — same, labialized

ƛ́ʷ — same, palatalized and labialized

ƛ: — tense (unaspirated) lateral affricate

ƛ́: — same, palatalized

ƛ:ʷ — same, labialized

ƛ́:ʷ — same, palatalized and labialized

 X — lax glottalized lateral affricate

X́ — same, palatalized

Xʷ — same, labialized

X́ʷ — same, palatalized and labialized

X: — tense lateral affricate

X́ — same, palatalized

Xʷ — same, labialized

X́ʷ — same, palatalized and labialized

Ł — voiced lateral affricate

Ĺ — same, palatalized

Łʷ — same, labialized

Ĺʷ — same, palatalized and labialized

λ — voiceless lateral fricative

λ́ — same, palatalized

λʷ — same, labialized

λ́ʷ — same, palatalized and labialized

λ: — tense lateral fricative

λ́: — same, palatalized

λ:ʷ — same, labialized

λ́:ʷ — same, palatalized and labialized

L — voiced lateral fricative

Ĺ — same, palatalized

Lʷ — same, labialized

Ĺʷ — same, palatalized and labialized

m — labial nasal resonant

ḿ — same, palatalized

n — dental nasal resonant

ń — same, palatalized

ŋ — velar nasal resonant

N — some nasal resonant (symbol used in reconsstructions)

o — back mid-low rounded vowel (short or irrelevant as to the length distinction)

ŏ — same, but short

ō — same, but long

O — some back rounded vowel (symbol used in reconstructions)

Ŏ — some back short rounded vowel (symbol used in reconstructions)

Ō — some back long rounded vowel (symbol used in reconstructions)

ö — front mid-low rounded vowel (short or irrelevant as to the length distinction)

ö̆ — same, but short

ȫ — same, but long

p — voiceless (aspirated) labial stop

ṕ — same, palatalized

pʷ — same, labialized

ṕʷ — same, palatalized and labialized

p: — tense (unaspirated) labial stop

ṕ: — same, palatalized

p:ʷ — same, labialized

ṕ:ʷ — same, palatalized and labialized

ṗ — glottalized labial stop

ṗ́ — same, palatalized

ṗʷ — same, labialized

ṗ́ʷ — same, palatalized and labialized

P — some labial consonant (symbol used in reconstructions)

q — voiceless (aspirated) uvular affricate

q́ — same, palatalized

qʷ — same, labialized

q́ʷ — same, palatalized and labialized

q: — tense (unaspirated) uvular stop [but in Avaro-Andian — tense uvular affricate; in some Lezghian languages (Rutul, Shakhdagh) it is functionally not tense, but voiced, because they lack other tense consonants — but actually pronounced as voiceless tense unaspirated]

q́: — same, palatalized

q:ʷ — same, labialized

q́:ʷ — same, labialized and palatalized

q̇ — lax glottalized uvular affricate

q̇́ — same, palatalized

q̇ʷ — same, labialized

q̇́ʷ — same, palatalized and labialized

r — dental vibrant

ŕ — same, palatalized

rʷ — same, labialized

ʁ — voiced uvular fricative

ʁ́ — same, palatalized

ʁʷ — same, labialized

ʁ́ʷ — same, labialized and palatalized

R — some resonant (symbol used in reconstructions; in ProtoTsezi-Khvarshi it denotes: "either *r or *l")

Ř — voiced pharyngeal fricative

s — voiceless hissing fricative

sʷ — voiceless labialized hissing fricative

ś — voiceless hissing-hushing (= palatalized) fricative

śʷ — voiceless palatalized labialized hissing fricative

śᵛ — voiceless dentolabialized hissing-hushing fricative

s: — tense hissing fricative

s:ʷ — tense labialized hissing fricative

ś: — tense hissing-hushing (= palatalized) fricative

ś:ʷ — tense palatalized labialized hissing affricate

ş — glottalized hissing fricative

ş́ — glottalized hissing-hushing fricative

şʷ — glottalized hissing labialized fricative

ş́ᵛ — glottalized dentolabialized hissing-hushing fricative

š — voiceless hushing fricative

šʷ — voiceless labialized hushing fricative

š̗ — voiceless palatalized hushing fricative

š̗ʷ — voiceless palatalized labialized hushing fricative

šᵛ — voiceless dentolabialized hushing fricative

š: — tense hushing fricative

š:ʷ — tense labialized hushing fricative

š̗: — tense palatalized hushing fricative

š̗:ʷ — tense palatalized labialized hushing fricative

š:ᵛ — tense dentolabialized hushing fricative

t — voiceless (aspirated) dental stop

t́ — same, palatalized

tʷ — same, labialized

t́ʷ — same, labialized and palatalized

t: — tense (unaspirated) dental stop

t́: — same, palatalized

t:ʷ — same, labialized

t́:ʷ — same, labialized and palatalized

ţ — glottalized dental stop

ţ́ — same, palatalized

ţʷ — same, labialized

ţ́ʷ — same, palatalized and labialized

ϑ — voiceless interdental fricative

T — some dental consonant (symbol used in reconstructions)

u — back high rounded vowel (short or irrelevant as to the length distinction)

ŭ — same, but short

i — same, but long

ü — front high rounded vowel (short or irrelevant as to the length distinction)

ü̆ — same, but short

ū — same, but long

u̦ — labial glide

v — voiced labial fricative

V — some vowel (symbol used in reconstructions)

V̆ — some short vowel (symbol used in reconstructions)

V̄ — some long vowel (symbol used in reconstructions)
w — labial resonant
x — voiceless velar fricative
x́ — same, palatalized
xʷ — same, labialized
x́ʷ — same, labialized and palatalized
x: — tense velar fricative
x́: — same, palatalized
x:ʷ — same, labialized
x́:ʷ — same, palatalized and labialized
χ — voiceless uvular fricative
χ́ — same, palatalized
χʷ — same, labialized
χ́ʷ — same, labialized and palatalized
χ: — tense uvular fricative
χ́: — same, palatalized
χ:ʷ — same, labialized
χ́:ʷ — same, palatalized and labialized
X̂ — voiceless pharyngeal fricative
z — voiced hissing fricative
zʷ — voiced labialized hissing fricative
ź — voiced hissing-hushing (= palatalized) fricative
źʷ — voiced palatalized labialized hissing fricative
źᵛ — voiced dentolabialized hissing-hushing fricative
ž — voiced hushing fricative
žʷ — voiced labialized hushing fricative
ž̗ — voiced palatalized hushing fricative
ž̗ʷ — voiced palatalized labialized hushing fricative
žᵛ — voiced dentolabialized hushing fricative
ʒ — voiced hissing affricate
ʒʷ — voiced labialized hissing affricate
ʒ́ — voiced hissing-hushing (= palatalized) affricate
ʒ́ʷ — voiced palatalized labialized hissing affricate
ʒ́ᵛ — voiced dentolabialized hissing-hushing affricate
ǯ — voiced hushing affricate
ǯʷ — voiced labialized hushing affricate
ǯ̗ — voiced palatalized hushing affricate
ǯ̗ʷ — voiced palatalized labialized hushing affricate
ǯᵛ — voiced dentolabialized hushing affricate

In the dictionary we usually left superfluous features unmarked. E.g., in all East Caucasian languages hushing affricates are phonetically palatalized; since they are not opposed to non-palatalized affricates, we did not mark their palatalization. On the other hand, in West Caucasian languages the opposition in palatalization between affricates is usual, and one has to mark it carefully.

This principle is violated only once: in all East Caucasian languages we regularly mark tense affricates with a colon, even if they are not opposed to lax ones (this concerns, e.g., the affricate q̇: in most Andian languages). We do it in order to conserve a uniform transcription (otherwise we would have to write, e.g., Tind. *miq̇i* 'road' — although it is pronounced exactly like Akhv. *miq̇:i* and goes back to **miq̇:i*).

Some additional phonemic features are not reflected in the list of phonemes presented above:

1) nasalization of vowels (marked with ˜);

2) pharyngealization of vowels and consonants (marked with I). Usually it is rather difficult to decide (in any particular language that possesses this feature) whether it is a feature of consonants, vowels, or both (a prosodic feature), and the decision varies from language to language (see the discussion in Trubetzkoy 1931 and the comments on pp. 465-473).

3) In Proto-North Caucasian and Proto-East Caucasian we introduce a distinction, marked as _ (underlining) of the first affricate or fricative in the root. This is probably a phonational feature like tenseness, which can be reconstructed only if the root contains a fricative or an affricate (see below, pp. 90-91).

Dynamic accent is marked by the sign ´; tonal distinctions are left unmarked (they still await description).

Morphemic boundaries are usually marked by a hyphen (-); the place of insertion of the variable class markers is, however, marked by the symbol =.

In comparative phonetic tables variants are delimited by the symbol / if their distribution is known; by the symbol ~ if their distribution is not discovered. The latter symbol (after a bracket) also introduces possible alternative reconstructions in the text of the dictionary. The symbol ᵛ between phonemes is used when the choice between two variants is uncertain (because of insufficient evidence).

In phonetic tables the hyphen (-) denotes position: thus, "k-" means "k in initial position"; "-k-" — "k in medial position", "-k" — "k in final possition". If any two positions are combined, the hyphen is omitted: thus, the expression "k: in non-final, k in final position" can be noted as "k:-,-k:-,-k" or, shorter, as "k:, -k".

LIST OF ABBREVIATIONS

AA	Avaro-Andian
Abadz.	Abadzekh dialect of Kabardian
Abaz.	Abaza
Abkh.	Abkhaz
Abzh.	Abzhui dialect of Abkhaz
Ad.	Adyghe
Afg.	Afgani
Ag.	Agul
AK	Adyg (Adyg-Kabardian)
Ak.	Akushi dialect of Dargwa
Akht.	Akhty dialect of Lezghi
Akhv.	Akhvakh
Akk.	Akka dialect of Chechen
Akkad.	Akkadian
Akn.	Aknada (Aknada-Angida) dialect of Tindi
Al.	Alik dialect of Kryz
Alyut.	Alyutor
Am.	Amukh dialect of Dargwa
Ams.	Amsar dialect of Rutul
Anch.	Anchikh dialect of Karata
And.	Andi
Andal.	Andalal dialect of Avar
Ants.	Antsukh dialect of Avar
Arab.	Arabic
Arak.	Arakul dialect of Lak
Arch.	Archi
Archo.	Archo dialect of Karata
Arm.	Armenian
Ars.	Arsug dialect of Agul (subdialect of the Koshan dialect)
Asakh.	Asakh dialect of Tsezi
Ashkh.	Ashkhar dialect of Abaza
Asht.	Ashtikuli dialect of Dargwa
AT	Abkhaz-Tapant

Av.	Avar
Avest.	Avestan
Azer.	Azeri
Bacb.	Batsbi
Bagv.	Bagvalal
Balk.	Balkarian
Balkh.	Balkhar dialect of Lak
Bartkh.	Bartkhi dialect of Lak
Besl.	Beslene dialect of Kabardian
Bezht.	Bezhta
Botl.	Botlikh
Bud.	Budukh
Burk.	Burkikhan dialect of Agul
Bursh.	Burshag dialect of Agul
Bz.	Bzyb dialect of Abkhaz
Bzhed.	Bzhedug dialect of Adyghe
Chab.	Chabakori dialect of Karata
Chad.	Chadakolob dialect of Avar
Cham.	Chamalal
Chan.	Chan
Cheb.	Cheberlo dialect of Chechen
Chech.	Chechen
Chir.	Chirag dialect of Agul
Cush.	Cushitic
Dig.	Digor dialect of Ossetian
Düb.	Dübek dialect of Tabasaran
EC	East Caucasian
Engl.	English
Fij.	Fij dialect of Lezghi
Fit.	Fite dialect of Agul
Gad.	Gadyri dialect of Chamalal
Gag.	Gagatl dialect of Andi
Gal.	Galanchozh dialect of Chechen
Gapsh.	Gapshima dialect of Dargwa
GB	Gunzib-Bezhta
Gelm.	Gelmets dialect of Tsakhur
Georg.	Georgian
Germ.	Germanic
Gid.	Gid dialect of Avar
Gig.	Gigatl dialect of Chamalal
Gin.	Ginukh
God.	Godoberi
Got.	Gothic
Gr.	Greek
Gunz.	Gunzib
Gün.	Güne dialect of Lezghi

Hebr.	Hebrew
Hitt.	Hittite
HU	Hurro-Urartian
Hung.	Hungarian
Hurr.	Hurrian
IE	Indo-European
Ikhr.	Ikhrek dialect of Rutul
Ind.	Indian (Old Ind. — Old Indian)
Ing.	Ingush
Inkh.	Inkhokvari
Iran.	Iranian
It., Itumk.	Itumkala dialect of Chechen
Itsar.	Itsari dialect of Dargwa
K.	Kurag dialect of Agul (recorded by M.Y. Alekseev)
Kab.	Kabardian (Circassian)
Kad.	Kadar dialect of Dargwa
Kafir.	Kafiri
Kait.	Kaitag dialect of Dargwa
Kand.	Kandik dialect of Tabasaran
Kar.	Karata
Karakh.	Karakh dialect of Avar
Keg.	Keger dialect of Avar (subdialect of Andalal)
Kel.	Keleb dialect of Avar
Ker.	Kere dialect of Agul
Kh.	Khamaitlakh dialect of Tsezi
Khak.	Khakuchi dialect of Adyghe
Khan.	Khanag dialect of Tabasaran
Khant.	Khanty
Kharb.	Kharbuk dialect of Dargwa
Khild.	Khildikharo dialect of Chechen
Khin.	Khinalug
Khiv.	Khiv dialect of Tabasaran
Khl.	Khliut dialect of Lezghi
Khn.	Khnov dialect of Rutul
Khniukh.	Khniukh dialect of Rutul
Khosh.	Khoshar-Khota dialect of Bezhta
Khosr.	Khosrekh dialect of Lak
Khu.	Khushtada dialect of Bagvali
Khud.	Khudig dialect of Agul
Khup.	Khupri dialect of Tsezi
Khür.	Khürig dialect of Tabasaran
Khvarsh.	Khvarshi
Kich.	Kiche dialect of Rutul
Kid.	Kidero dialect of Tsezi
Kirgh.	Kirghiz
Kist.	Kista dialect of Chechen

Kosh.	Kosha dialect of Agul (= Bursh.)
Kryz.	Kryz
Kub.	Kubachi dialect of Dargwa
Kuba.	Kuba dialect of Lezghi
Kuban.	Kuban dialect of Kabardian
Kul.	Kuli (Vachi-Kuli) dialect of Lak
Kum.	Kumyk
Kumukh.	Kumukh dialect of Lak
Kur.	Kurakh dialect of Lezghi
Kuyad.	Kuyada dialect of Avar (subdialect of Andalal)
Kvan.	Kvanada (Kvanada-Gemerso) dialect of Bagvalal
Kvankh.	Kvankhidatl dialect of Andi
Kypch.	Kypchak
Lak.	Lak
Lat.	Latin
Lev.	Level-land dialect of Chechen
Lezg.	Lezghi
L.-Enkh.	Lower Enkhida dialect of Karata
L.-Gakv.	Lower Gakvari dialect of Chamalal
Lit.	Lithuanian
Luch.	Luchek dialect of Rutul
Mans.	Mansi
Mar.	Mari
Masht.	Mashtada dialect of Karata
Meg.	Megeb dialect of Dargwa
Megr.	Megrel
Mek.	Mekeg dialect of Dargwa
Melkh.	Melkha dialect of Chechen
Miar.	Miarsu dialect of Botlikh
Migr.	Migrakh dialect of Lezghi
Mik.	Mikik dialect of Tsakhur
Mishl.	Mishlesh dialect of Tsakhur
Mong.	Mongolian
Mord.	Mordva
Mozd.	Mozdok dialect of Kabardian
M.-Pers.	Middle Persian
MSU	Materials of the expeditions of the Moscow State University
Mug.	Mugi dialect of Dargwa
Muir.	Muiri dialect of Dargwa
Mukh.	Mukhad dialect of Rutul
Mukhakh.	Mukhakh dialect of Tsakhur
Mun.	Munib dialect of Andi
Mükhr.	Mükhrek dialect of Rutul
Mür.	Müregi dialect of Dargwa
Nakh.	Nakhada dialect of Gunzib

N.-Akhv.	Northern Akhvakh
NC	North Caucasian
Nidzh.	Nidzh dialect of Udi
Nüt.	Nütüg dialect of Lezghi
Obokh.	Obokh dialect of Avar (subdialect of Andalal)
Osset.	Ossetian
PAA	Proto-Avaro-Andian
PAK	Proto-Adyghe-Kabardian
PAT	Proto-Abkhaz-Tapant
PGB	Proto-Gunzib-Bezhta
PEC	Proto-East Caucasian
Pers.	Persian
Pharch.	Pharcho dialect of Chechen
PHU	Proto-Hurro-Urartian
PIE	Proto-Indo-European
PK	Proto-Kartvelian
PL	Proto-Lezghian
PNC	Proto-North Caucasian
Pol.	Polish
PT	Proto-Turkic
PTsKh	Proto-Tsez-Khvarshi
PWC	Proto-West Caucasian
Rach.	Rachabaldi dialect of Karata
Ratl.	Ratlub dialect of Akhvakh
Rats.	Ratsitl dialect of Karata
Rich.	Richa dialect of Agul
Rikv.	Rikvani dialect of Andi
Russ.	Russian
Rut.	Rutul
S.-Akhv.	Southern Akhvakh
Sag.	Sagada dialect of Tsezi
Samurz.	Samurzakan dialect of Abkhaz
Santl.	Santlada dialect of Inkhokvari
Scyth.	Scythian
Sem.	Semitic
Sh.	Shaitl dialect of Tsezi
Shangud.	Shangud dialect of Avar
Shaps.	Shapsug dialect of Adyghe
Shar.	Sharo dialect of Chechen
Shin.	Shinaz dialect of Rutul
Shugn.	Shugnan
Shul.	Shulani dialect of Avar
Sirg.	Sirgokala dialect of Dargwa
Slav.	Slavic
Sogd.	Sogdian
Sum.	Sumerian

Svan.	Svan
Tab.	Tabasaran
Tap.	Tapant dialect of Abaza
Tat.	Tatar
Tem.	Temirgoi dialect of Adyghe
Tind.	Tindi
Tlad.	Tladal dialect of Bezhta
Tlan.	Tlanub dialect of Akhvakh
Tlis.	Tlissi (Tlissi-Tlibisho) dialect of Bagvalal
Tlond.	Tlondoda (Tlondoda-Khushtada) dialect of Bagvalal
Tok.	Tokita dialect of Karata
Tokh.	Tokharian
Tp.	Tpig dialect of Agul
Tsakh.	Tsakhur
Tseg.	Tsegob dialect of Akhvakh
Tsez.	Tsezi (Dido)
Tsirkh.	Tsirkhe dialect of Agul
TsKh	Tsezi-Khvarshi
Tsud.	Tsudakhar dialect of Dargwa
Turk.	Turkish
Ub.	Ubykh
Ud.	Udi
Udm.	Udmurtian
U.-Gakv.	Upper Gakvari dialect of Chamalal
Ukr.	Ukranian
Ulz.	Ulzig dialect of Tabasaran
Unt.	Untib dialect of Avar
Ur.	Urakhi dialect of Dargwa
Urart.	Urartian
Vart.	Vartashen dialect of Udi (basic dial.)
Ved.	Vedeno dialect of Chechen
Veps.	Veps
Vikhl.	Vikhli dialect of Lak
Vitskh.	Vitskhi dialect of Lak
WC	West Caucasian
Yark.	Yarki dialect of Lezghi
Zak.	Zakatal dialect of Avar
Zan.	Zan
Zib.	Zibirkhali dialect of Godoberi
Zil.	Zilo dialect of Andi

Names of protolanguages are usually abbreviated as PWC, PEC, PL etc. However, in etymological headings we use "W.-Cauc." for PWC, "Nakh." for PN, "Av.-And." for PAA, "Tsez." for PTs, "Darg." for PD and "Lezg." for PL.

1.8. From PL to modern Lezghian languages.

The PL reconstruction is presently the most developed of all intermediate reconstructions. Besides, since the PL phonological system is characterized by special archaic features as a result of the early split of the Lezghian family, its reconstruction plays a specific part in the reconstruction of PEC and PNC phonological systems. Therefore we consider it necessary to go over the characteristics of the PL system in some detail.

The existing PL reconstruction had already been completed in its entirety in 1975 (see [Starostin 1975a, 19756]) and is rather substantially different from the later presented reconstruction of B. B. Talibov ([Talibov 1980]), as well as from the systems, reconstructed sketchily by E. A. Bokarev ([Bokarev 1981]) and B. K. Gigineyshvili ([Gigineyshvili 1977]). The main differences in our reconstruction are: postulation of the originality of tense unaspirated explosives and affricates and the recognition of the secondariness of their voiced reflexes in some modern languages (see below); reconstruction of the full lateral series for PL; reconstruction of the PL system of laryngeal consonants; reconstruction of PL vocalism (significantly different from the system suggested by E. A. Bokarev); reconstruction of the PL root structure and ablaut system; reconstruction of a series of tense resonants in PL, etc. For a short sketch of our reconstruction and a table of correspondences (unfortunately, with some misprints), see the book [Alekseyev 1985, pp. 11-15].

1.8.1. Consonantism.
We reconstruct the following consonant system for PL:

Labials	p	p:	b	ṗ					u̯	w	m m:
Dentals	t	t:	d	ṭ					j	r, l	n n:, l:
Labialized dentals	tʷ	t:ʷ		ṭʷ							
Hissing	c	c:		ʔ	ç:	s	s:	z			
Labialized hissing	cʷ	c:ʷ		ʔʷ	ç:ʷ	sʷ	s:ʷ				
Hushing	č	č:	(ǯ)	ç	č:	š	š:	ž			
Labialized hushing	čʷ	č:ʷ	(ǯʷ)	çʷ		šʷ	š:ʷ	žʷ			
Laterals	ƛ	ƛ:	(Ł)	ƛ̣	ƛ̣:	λ	λ:				
Labialized laterals	ƛʷ	ƛ:ʷ		ƛ̣ʷ	ƛ̣:ʷ	λʷ	λ:ʷ				
Velars	k	k:	g	ḳ							
Labialized velars	kʷ	k:ʷ		ḳʷ							
Uvulars	q	q:		q̇	q̇:	χ	χ:	ʁ			
Labialized uvulars	qʷ	q:ʷ		q̇ʷ	q̇:ʷ	χʷ	χ:ʷ				
Pharyngealized uvulars	qI	qI:		q̇I	q̇I:	χI	χI:				
Pharyngealized labialized uvulars	qIʷ	qI:ʷ		q̇Iʷ	q̇I:ʷ	χIʷ	χIʷ:				
Laryngeals	ʔ					h					
Labialized laryngeals	ʔʷ										
Pharyngealized laryngeals	ʔI					hI					
Emphatic laryngeals	ʔ̇					ħ					
Emphatic labialized laryngeals	ʔ̇ʷ										

We must at once note that pharyngealized consonants in PL should not be necessarily regarded as independent phonemes, because in PL there was a full system of independent pharyngealized vowels (see below), and pharyngealized consonants can be regarded as allophones of simple uvulars (and laryngeals), adjacent to pharyngealized vowels. However, since in many modern Lezghian languages pharyngealized consonants represent a special series, often yield reflexes different from the respective non-pharyngealized phonemes and statistically occur much more frequently adjacent to pharyngealized vowels than other consonants, it is convenient to regard them as separate phonological units.

Let us now separately examine the reflexation of PL explosives, resonants, affricates and fricatives.

1.8.1.1. Explosives.

For PL it is necessary to reconstruct three local series of explosive consonants: labial, dental and velar. Each of these series is characterized by the presence of a four-way distinction "voiceless (aspirated)" — "tense (unaspirated)" — "glottalized" — "voiced". We must note at once that voiced explosives (as other voiced obstruents, see below) are more rarely encountered than explosives of other types, and can be regarded as "peripheral" phonemes (it is worth noting that in verbal roots voiced phonemes are lacking). However, the opposition "tense" — "voiced", found in Archi and in Lezghian, and a good correlation between the evidence of these two languages lead us to project this opposition onto the PL level; some features of other languages (e.g., a specific Tabasaran reflexation of PL *g opposed to *k:, see below) confirm this reconstruction — although, in the long run, it seems to be a PL innovation (compared to the PEC stage).

In the system of explosive consonants (as well as in the system of affricates and fricatives, see below) there was an opposition of labialized and non-labialized phonemes that was neutralized only in the labial series.

Let us now give the system of correspondences of explosive consonants in descendant languages.

PL	Arch	Ag	Tab	Lezg	Rut	Tsakh	Kryz	Bud	Ud
*p	p	p	p	p	p	p	p	p	p
*p:	b	b/w	b/w	p:,-b	b	b	b	b	b/p:?
*ṗ	ṗ	ṗ,-b-/-w-	ṗ/p:/p	ṗ,-b	ṗ,-b	ṗ,-b	ṗ-,ṗ/b	?-,ṗ	?-,p:
*b	b			b	b	b	b	b	b
*t	t	t	t/č	t/c	t	t	t/č	t/č	t/c
*tʷ	tʷ/t	t	t	t	t	t	t	t	
*t:	d-,-t:-,-t	d/r	d-/ʒ-(/-j-,-w-)	t:/c:, -d	d	d	d/ʒ	d/ʒ	d(/t:)/c-?
*t:ʷ	-t:(ʷ)-	d/r	d/j	t:(ʷ),-d	d	d	d	d	
*ṭ	ṭ	ṭ	ṭ/č̣	ṭ/ʔ	ṭ	ṭ	t/č̣	ṭ/č̣	t:
*ṭʷ	ṭ	ṭ	ṭ	ṭ(ʷ)	ṭ(ʷ)	ṭ	ṭ	ṭ	
*d	d-	d	d	d				d	
*k	k,-k:-	k	k	k	k	k	k	k	k
*kʷ	k(ʷ),-k:-	k(ʷ)	k(ʷ)	k(ʷ)	k(ʷ)	k(ʷ)	k(ʷ)	k	k
*k:	g-,-k:-,-k	g,-ɣ-	g-,-g-	k:,-g	g	g,-g-/-ɣ-	g	g	g/k:
*k:ʷ	g(ʷ)-,-k:(ʷ)-,-kʷ	g(ʷ)	g(ʷ)	k:(ʷ),-g(ʷ)	g(ʷ)	g(ʷ),-g(ʷ)-	g	g	-k:
*ḳ	ḳ	ḳ	ḳ	ḳ	ḳ	ḳ	ḳ	ḳ	k:
*ḳʷ	ḳʷ	ḳ(ʷ)	ḳ(ʷ)	ḳ(ʷ)	ḳ(ʷ)	ḳ(ʷ)	ḳ(ʷ)	ḳ	k:
*g	g	g/k:	g/ʒ/k:	g	g	g	g	g	k:
*gʷ	g(/-k:-)	k:(w)/g(ʷ)	k:(ʷ)/g(ʷ)	g	g				

Comments.

The table shows that voiced, voiceless and glottalized consonants are preserved in all descendant languages (except Udi, in which glottalized consonants are regularly reflected as tense ones). The voiced *g is reflected (though just sporadically) as k: in Agul and Tabasaran, as well as in Udi; there is some reason to think that alrea-dy in PL the articulations *g and *g: were admitted as free variants.

Tense (unaspirated) consonants are at the present time preserved in Archi, Lezghi and Udi, though in Udi PL tense consonants generally give voiced reflexes; the preservation of tense ones is observed only sporadically, usually not in the initial position. (It is necessary to note at once that reflexes of PL phonemes in Udi are generally less exact than in other Lezghian languages; in many cases there probably exists a complementary distribution of reflexes, that is, however, hard to discover because of insufficient data). In Archi tense explosives are voiced in the initial position, preserved in the intervocalic position and weakened in final position (though PL *p: gives b in all positions here). In Lezghi tense consonants are preserved in the initial and intervocalic positions, but are voiced in final position.

In all other languages the PL tense explosives have been voiced. In Tabasaran

and Agul (to be precise: in the Northern dialect of Tabasaran and in the Koshan and Burkikhan dialects of Agul) we observe a further process of sonorization (probably through an intermediate stage of fricativization) of the reflexes of PL tense explosives in non-initial position, which led to the development PL *p: > w in all the afore-mentioned dialects. PL *t: is reflected as r in non-initial position in the Koshan and Burkikhan dialects of Agul and in some subdialects of the Northern dialect of Tabasaran; in the Dübek subdialect of Tabasaran PL *t: is reflected as j in final position and as -j- or -w- (depending on the character of the following vowel) in intervocalic position.

The voiced reflex g < PL *k: in non-initial position can be fricativized and develop into ɣ; this development is observed in non-initial position in Tabasaran, where -g- and -ɣ- are in free variation; in the Mikik dialect of Tsakhur the fricativization *-k:- > -g- >- ɣ- is obligatory. The development *-k:- > -j- (apparently, through the step -ɣ-) is observed in the Nidzh dialect of Udi.

Labialized consonants are completely lost in the Budukh and Udi languages, as well as in the Northern dialect of Tabasaran (here only specific "dentolabialized" consonants are preserved; on those, see below). Other Lezghian languages preserve labialized consonants. However, it must be noted that labialization is easily transferred from the consonant to the adjacent vowel; as a result of this, the labialization of the consonant itself is often lost. (Phonetically the consonant is certainly still labialized, but, since in all Lezghian languages the "labialized" — "non-labialized" opposition is neutralized in the position close to a labialized vowel, the labialization of the consonant becomes nondistinctive in this context). Especially unstable is the labialization of front consonants, which are preserved (in a few roots only) in Archi, Lezghian and Rutul, but which in other languages have been completely delabialized.

The palatalization of dental consonants before front vowels is more or less typical for all Lezghian languages. A strong palatalization of dental explosives is observed in Tsakhur. Here, however, the palatalized dentals have not been affected by the further affrication that is observed in Tabasaran, Kryz, Budukh, Lezghi and Udi (with hushing reflexes in Tabasaran, Kryz and Budukh, and hissing reflexes in Lezghi and Udi).

We should also dwell upon the following minor points:

a) The PL phoneme *ṗ is rather rare and does not have stable reflexes. Archi usually reflects it as ṗ (but -p- in *kupar* "manure" < PL *kuṗ). Agul has ṗ- in initial position, but in other positions the deglottalization ṗ > p: occurred, after which this consonant behaved as PL *p: (see above). In Tabasaran the Southern dialect (and the literary language) have the reflex ṗ; a single known Northern dialect example *(kup* "dried dung") reveals the final -p. Rutul and Tsakhur have the reflexes ṗ- in initial position, -b- in the non-initial one.

Lezghi always has ṗ- in initial position. In other positions literary Lezghi also has ṗ, but the Akhty dialect (Khliut) shows a variation between ṗ and p: (-b in final position). The glottalization of the final -ṗ is lost if a preceding glottalized consonant is present (-ṗ > -b), but is restored in medial position (cf. Nom. *ṭab* — Erg. *ṭaṗuni).*

b) As has been mentioned above, PL tense explosives are preserved in Lezghi in

initial position. However, the Northern dialects of Lezghi sometimes have a secondary voicing of PL *p:-, *t:- and *k:- in this position. It usually occurs in polysyllabic words with medial glottalized or tense consonants (thus being a dissimilative process). The central (Samur) and Southern dialects usually preserve tense consonants in this position.

c) Unlike PL voiceless *p and *t, PL *k gives an unusual intervocalic reflex in Archi: a tense -k:-. This led to the merger of the non-initial reflexes of PL *k and *k: in Archi.

d) Velar explosives are not usually affected by affrication (unlike dental explosives, see above) before front vowels. An exception is the phoneme *g, which, in this position, developed into ʒ in Tabasaran (which, by the way, reliably distinguishes the reflexes of PL *g and *k: : the latter also yields Tabasaran g, but is not subject to palatalization and affricativization before front vowels).

1.8.1.2. Resonant consonants.

We reconstruct ten resonants for PL: *m, *m:, *w, *u̯; *n, *n:, *r, *j; *l, *l:. Modern languages lack the opposition w-u̯, as well as the tense resonants m:, n:, l:. In PL the distribution of these phonemes was limited as well: PL *u̯ is reconstructed only in initial position, and PL *m:, *n:, *l: — only in the non-initial one. Phonetically PL *w probably represented a somewhat fricativized bilabial b or a dentolabial v, and PL *u̯ — a bilabial glide.

Let us now give the table of correspondences of resonants in descendant languages:

PL	Arch	Ag	Tab	Lezg	Rut	Tsakh	Kryz	Bud	Ud
*m	m/b	m	m	m	m	m	m	m	m
*m:	m	b/w	b/w	-p:-,-b	b	m	b	b	m
*w	b	w	w	w	w	w	w	w	b-,-w
*u̯	w/∅	w/∅/j	w/j	w/∅	w/j/∅	w/j/∅	w/j	w/j	w/∅
*n	n/d	n	n	n	n	n	n	n	n
*n:	-nn-,-n	d/r	d/j/ʒ	-t:-/ -c:-,-d	d	n	d/ʒ	d/ʒ	n
*r	d-,r	r	r	r	r	r/j/w/∅	r	r	∅/j/-r
*j	∅	j/∅,-j-	j,-j/-∅	j/∅	j,-j/-∅	j,-∅	j-,-∅	j-,-∅	∅,-j-?
*l	l	l	l	l	l	l/ĺ/w	l	l	l(-∅-)
*l:	-t:-,-t	l	l	l	l	l/ĺ/w	l	l	l

Comments.

1) Archi: PL *m and *n in the initial position are sporadically denasalized here (cf. the development in PL *mɨq̇ʷ > Arch. biq̇ʷ "place"; *muq̇ > Arch. buq̇ "barley"; *mɨX > Arch. boḳ "malt"; *niʔ > Arch. di "smell"); however, in most cases it does not happen. The causes of of this development are not quite clear. We do not exclude the possibility that one should reconstruct here PL *m:-, *n:-

in initial position (with "inverse" reflexes as opposed to those in the non-initial position), but there are too little data for final conclusions.

PL *u̯ gives w here, but ∅ (= ʔ) before labialized vowels. Cf. PL *u̯irƛ:ɨ > Arch. wiƛ, but PL *u̯o-n "thou" > Arch. *un*, etc.

2) Agul: Here we must comment the development of PL *w, *u̯, *j. The initial *j- is usually preserved in Agul; only before the vowel *i do the Keren and Burkikhan dialects lose j- (replacing it with ʔ-), cf. PL *jirḳw > Ag. Rich., Burk. *irḳw* (but Bursh., Fit. *jirḳw*) "heart". The Koshan (Burshag) and Fite dialects reveal an interesting reflexation in this position: they usually preserve *j before *i, but lose it (*j > ∅- = ʔ-) if the following conso-nant is a fricative (s, f, x). Cf. PL *jirḳw "heart" > Ag. Bursh., Fit. *jirḳw*, but PL *jis: "year" > Ag. Bursh. *is:*, Fit. *is.* In final position the Keren and Burkikhan dialects lose -j after back vowels (a, u), but preserve it after front ones (e, i; the sequence -ij is in fact already pro-nounced here as -i, but in case of secondary labialization -wij > -uj and j is preserved — unlike the old sequence *-uj > -u). Cf. PL *çaj > Rich., Burk. *ça* "fire"; PL *χuj > Rich. *χu* "field"; but PL *ƛ:aj > Rich., Burk. *xej* "wool", etc.

PL *u̯ in Agul develops into w- before back vowels (cf. wu-n "thou"), but into j- be-fore front ones (both Keren and Burkikhan dialects have ∅ = ʔ before the vowel i, cf. above on the reflexes of *j), cf. PL *u̯irƛi- "seven" > Ag. *jeri-d*; PL *u̯iç̣i — "ten" > Ag. Rich., Burk. *iç̣u-d*, Bursh. *jiç̣u-r*, Fit. *jiç̣u-d.*

PL *w is usually preserved. However, the initial sequence *wi- is reflected as u- in Agul, and the final sequence *-iw — as -u/-uj. Cf. PL *wilč "calf" > Ag. *urč*; PL *qI:ʷiw "tu-ber" > Ag. Fit. *ʁIuj* "radish", etc.

On the development of PL tense resonants in Agul and other Lezghian languages, see below.

3) Tabasaran: PL *j is well preserved here (though the final -j is regularly lost in the Southern dialect, cf. PL *ƛ:aj > Kand., lit. *xa,* Düb. *xaj* "wool").

PL *w is also preserved; however, the sequences *wi- and *iw develop in the same way as in Agul (see above), cf. PL *wit:ar "grain" > Tab. *udar,* PL *s:iw "oat flour" > Tab. *su,* etc. The sequence *we- also gives u- in some Tabasaran dialects (Dübek, Kandik), but is preserved as we- in the literary language. Cf. PL *werƛ > Kand., Düb. *urš,* lit. *werš* "ma-ple".

PL *u̯ in Tabasaran is, in general, reflected in the same way as in Agul, i.e. it gives w, but j before the vowel i: cf. PL *u̯o-n "thou" > Tab. *uwu,* but *u̯iç̣i- "ten" > Tab. *jiç̣u-b.* How-ever, the sequence *u̯i- can develop into u- as well (see above about *wi-). The principles of distribution of the reflexes ji- and u- are unclear due to insufficient evidence (PL *u̯ is in general a rather rare phoneme). Cf. PL *u̯iχ- "quickly" > Tab. *uχ-ti;* PL *u̯irƛ:ɨ- "seven" > Tab. *urgu-b.*

4) Lezghi: Extremely characteristic of Lezghi is the disappearance of the initial se-quences *mu-, *mo-, *wi-, *wo-, *u̯i-, *ji-, if the root consists of two or more syllables. Cf. PL *moƛ:or > Lezg. *gur* "tomb", PL *murk:ul > Lezg. *k:ul* "besom", PL *wit:ar > Lezg. *t:ʷar* "grain", PL *woher > Lezg. *her* "ram", PL *u̯iʔɨ- > Lezg. *ʔu-d* "ten", PL *jič:in > Lezg. *č:in* "face", etc. The last four sequences are preserved as ji- in the Akhty dialect (cf. Khl. *jut:ʷar* < *jit:ʷ:ar "grain", Khl. *jic:ur* "stable" vs. lit. Lezg. *c:ur* < PL *wonc:ʷ:ɨr,* Khl. *jič:in* "face", etc.). The same development is sporadically observed in other languages (except Archi), but it

is regular only in Lezghi.

5) Rutul. PL *u̯ gives w before non-front vowels (cf. *wɨ,* Erg. *wa* "thou"), and j- before front ones (cf. *jiwɨ-d* "seven", *jiçɨ-d* "ten"). On the zero reflex of PL *u̯ as marker of the first verb class in Rutul (as well as in Tsakhur, Kryz and Budukh) see below.

PL *j is usually preserved in Rutul. It disappears only after -i in final position (in the Ikhrek and Khnov dialects, after -a as well). In all dialects the reflexes of *j vary after u (-uj or -u). Cf. PL *çaj "fire" > Luch., Shin. *çaj,* Ikhr. *çä,* Khn. *ça;* PL *tuj* "saliva, spit" > Rut. *tu* (Erg. *tuji-r),* but PL *χuj* "field" > Rut. *χuj* (Erg. *χuji-r).*

6) Tsakhur: PL *u̯ develops as in Rutul, i.e. gives either w or j, depending on the following vowel (cf. *wu* "thou", *jiçɨ-lle* "ten"). PL *j is preserved in the initial and medial positions, but regularly disappears in final position (cf. *jiⱪ* "heart"; *xa,* gen. *xaji-n* "wool", etc.)

We must specially dwell upon the Tsakhur reflexes of PL *r and *l.

PL *r develops into r, j or ∅ in Tsakhur, depending on position. In initial position before an original *a we observe the reflexes r- (in the structure CVC, cf. PL *rap:, Tsakh. *rab* "awl") or ∅- in the structure CVCV, cf. PL *raqI:a > Tsakh. *aʁIa* "comb", PL *raχ̌:a > Tsakh. *ak:a* "door", etc.). This variation is possibly connected with the prosodic opposition of these two types of roots. r- is also preserved before PL *o, cf. PL *roš:- > Tsakh. *riš:i-n* "dense". Before PL front vowels *r > j, cf. PL *riⱪIᵂ: > Tsakh. *jɨqI* "ashes", PL *räⱪI: > Tsakh. *jaqI* "road", etc. (The same reflex is present before ɨ and *u before a hushing consonant, cf. PL *ruš: > Tsakh. *jɨš* "daughter"). Finally, before PL *u, *r > Tsakh. w, cf. PL *ruqVna > Tsakh. *wuqna* "cave".

In medial position the reflex of *r is split (-r- or -j-); -j- occurs only before -e (-ä), -r- occurs in other cases. Cf. PL *č:u-χIera > Tsakh. Gelm. *ž̌iχIajä* (in proper Tsakhur with a contraction: *ž̌iχIē)* "pear"; PL *s:wɨra > Tsakh. *sura* "part".

In final position there is also a split reflex: -r or -∅ < -j; (the lost -j is regularly restored in oblique stems of nouns.) The zero reflex is observed in nouns whose oblique stem ends with -i- (Gelm. -i-, Mik. -ɨ-), going back to the PL oblique stem in *-i- (see below on oblique stems); the reflex -r is represented in nouns whose oblique stems in PL end with *-a- or *-e- (> Proto-Tsakh. *-a- > Gelm. -a-/-o-, Mik. -a-/-i-). Cf. PL *ç:ᵂer (*-i-stem) > Tsakh. do (Gen. Tsakh., Gelm. *doji-n,* Mik. *dojɨ-n)* "name"; PL *c:är (*-a-stem) > Tsakh. *zer* (gen. *zera-n),* Gelm. *zär* (gen. *zära-n)* "cow".

PL *l and *l: are reflected in Tsakhur either as l (ĺ) or as w. (It must be noted that on the synchronous level, the variants l and ĺ are in complementary distribution: the palatalized ĺ is obligatory in final position, otherwise — only before front vowels; before the back ones we meet the hard l.) The distribution of the reflexes l and w was suggested by Gigineyshvili [Gigineyshvili 1977], pp. 68-69), who proposed a dissimilative development: l, if a labial consonant is present in the root, but w, if there is none. This distribution rule, however, is certainly wrong, because there are very many cases in which we observe the reflex l without any labial consonant at all, cf. the Tsakh. words *ž̌il, čil, gaĺ, lat, laχa, ʁel, ʁuĺ, sili,* etc.

Actually the distribution of the reflexes of *l (and *l:) is similar to that of the reflexes of *r, that is:

a) in initial position the lateral articulation of l is preserved before original front vowels (where *r > j) and before *a (where *r > r or ∅); before *o (where *r > r) and *u (where *r > w) we observe the reflex w. Cf. PL *läχa > Tsakh. *láχa* "bracelet"; PL *laχ:a >* Tsakh. *laχ:a* "stove" (cf. Rut. *laχ* "fireplace"); PL *loλ(w) > Tsakh. *wix* "louse"; PL *luča >* Tsakh. *wuče* "heifer".

b) in medial position we observe the reflex l either before front vowels or preceded by a consonant and followed by a vowel (in the structure -VClV-); in other cases the re-flex is -w-. Cf. PL *wo(r)λ:il- > Gelm. *wiɡili-n* "male", PL *(mu)s:wäl > Tsakh. *sole* "wild tur-key"; PL *m[a]zulaj > Tsakh. mɨzla "leprosy"; PL *q̇ula* "board" > Tsakh. *q̇uwa*, PL *čol:a* "strap" > Tsakh. *čuwa*, etc. The medial complex -VwV- < *-VlV- before a closing consonant can be subject to contraction, cf. PL *mulVqIʷ > Tsakh. *mɨqI* "worm". Within the paradigm such a contraction happens in the Mikik dialect in the sequence -awaC > -āC, the result of adding a suffix to the nominal root, cf. PL *χal 'house' > Tsakh. *χaw*, gen. *χawɨ-n*, Mik. *χā-n*.

c) in final position we always observe the reflex -l (=-Í) after narrow vowels i, ɨ, u, cf. PL *q̇ʷil > Tsakh. q̇uÍ *"rock"*, PL *čul > Tsakh. *čil* "perch", etc. After wide vowels the same reflex is present in nouns with an oblique stem in -i-/-e- < PL *-ɨ-, cf. PL *čʷ:äl (*-ɨ-stem) > Tsakh. žoÍ, gen. *žole-n*, Gelm. *žʷel*, gen. *žʷeli-n* "sheaf". The reflex -w appears only after wide vowels in nouns with an oblique stem in -a-/-ɨ- < PL *-a-, *-e-, cf. PL *χal > Tsakh. *χaw*, gen. *χawɨ-n*, Gelm. *χaw*, gen. *χawa-n*, Mik. *χaw*, gen. *χā-n* "house".

7) Kryz and Budukh: PL resonants are well preserved here. PL *u̯ and *j give the same reflexes in Budukh and Kryz as in Tsakhur (see above), i.e. *u̯ gives either w or j, depending on the following vowel (cf. Kryz *wɨ-n*, Bud. *wə-n* "thou", Kryz *jiʔɨ-d*, Bud. *ji- ʔə-b* "ten"); *j is preserved in initial and medial positions, but disappears in the final position (cf. PL *jaχ̣: > Kryz *jək*, Bud. *jək* "meat"; PL *çaj "fire"> Kryz *çä*, Bud. *ça*, etc.)

8) Udi: Here we must dwell on the reflexation of PL *u̯, *n, *n:, *r, *j and *l.

PL *u̯ in Udi usually gives w (cf. *wuʁI* "seven", *wiç* "ten"); the sequence *u̯o- gives u- (cf. *u-n* "thou", oblique stem *wa-* < PL *u̯o-n, *u̯a-). Cf. similar reflexes in Archi.

PL *n and *n: in usually develop into n in Udi, but in final position can disappear as well, the conditions of this loss being unclear. Cf. PL *näṭ "nit" > Ud. (with a metathesis) *t:e* (< *t:en*); PL *λ:än: "water" > Ud. *χe* (with the restoration of -n in the derived *χene* "aquatic"). Without the loss cf. PL *s:än "year" > Ud. *u-sen*; PL *čun: "flea" > Ud. *in,* etc.

The initial *r is dropped in Udi (less frequently *r- > j-; the distribution of the reflexes ∅- and j- is probably connected with vocalism). Cf. PL *raç:a "threshing-floor" > Ud. *eč,* PL *riq̇Iʷ: "ashes" > Ud. *iq:;* PL *räq̇I: "road" > Ud. *jaq:.* In intervocalic position *r disappears as well, cf. PL *wiraq: > Ud. *beʁI* "sun". In final position there is a split reflex: -r or -∅ (cf. with the reflexes of *-n above), with a yet unclear distribution. Cf. PL *χIera "pear" > Ud. *ar,* but PL *qI:ora "hare" > Ud. *ʁu.*

PL *j disappears in all positions in Udi, cf. PL *jaχ: "meet" > Ud. *eq:,* PL *jirk̟ʷ* "heart" > Ud. *uk:;* PL *λ:aj* "wool" > Ud. *χa,* etc. It can only be preserved between vowels (cf. *χaje* "woollen", derived from *χa* "wool"). In roots that consist of more than one syllable the initial sequence "j+vowel" is lost, cf. PL *jatur* > Ud. *tur* "foot"; PL *jič:in* > Ud. *č:Io* "face".

PL *l is usually preserved in Udi, but apparently disappears in intervocalic position, cf. PL *mulVqIʷ* > Ud. *meq* "worm".

9) The PL tense resonants *m:, *n: give nasal reflexes in Archi, Tsakhur and Udi. In all other Lezghian languages the reflexes of *m: and *n: have completely merged with the reflexes of PL *p: and *t:. Cf. PL *s:äm:* "gall, anger" > Arch. *s:am,* Tab. *seb* (Düb. *siw),* ==Ag.== *seb* (==Bursh.,== ==Burk.== *sew*), Lezg. *seb* (pl. *sep:erar*), Rut. Shin. *seb;* PL *λ:äm:* "nail" > Tab. *šib* (Düb. *šaw),* Rut. *xäb,* Ud. *muχ* (a metathesis < *χum);* PL *q:Iʷen:* "partridge" > Arch. *qIon* (Erg. *qIanna),* Tab. *ʁIud,* ==Ag.== *Rud* (==Bursh.== Rud), Lezg. *qʷ:ed* (Erg. *q:ʷet:re),* Rut. *ʁIud,* Tsakh. *q:Ion;* PL *λ:än:* "water" > Arch. *λ:an* (Erg. *λ:enne),* ==Ag.== *xed* (==Bursh.== *š:er*), Tab. *šid* (Düb. *šaj),* Lezg. *jad* (Erg. *c:i < *jit:i,* pl. *jat:ar;* cf. Khl. *jad, jic:i, jat:ar*), Rut. *xäd,* Tsakh. *xan,* Kryz *xäd,* Bud. *xad,* Ud. *χe* (cf. *χene* "aquatic"). We must note that in intervocalic position PL *m: can give a zero reflex in Udi, cf. Ud. *ul* "wolf" with Tsakh. *umul,* Rut. *ubul,* Kryz *eb,* Bud. *eb,* Arch. *jam* (PL *ʔIam:).

10) The reflexes of PL *u̯ were already examined above. We should note that *u̯ as a marker of the 1st grammatical class regularly develops into w- in Archi, but gives a zero reflex in Rutul, Tsakhur, Kryz and Budukh (Rutul also has j-, regularly developed from *u̯ in the same function). The reasons for such a development are not quite clear yet.

1.8.1.3. Affricates.

We reconstruct five local affricate series for PL: hissing, hushing, lateral, uvular and pharyngealized uvular. Each of these series is characterized by the presence of a four-way opposition "voiceless (aspirated)" — "tense (unaspirated)" — "lax glottalized" — "tense glottalized". The problem of voiced affricates in PL is much more complicated. It is not to be excluded that in the hissing, lateral and uvular series one has to reconstruct special voiced phonemes, that were, however, present only in some pronominal and expressive morphemes. This question will be specially discussed below.

Below we list the correspondences of affricates between Lezghian languages.

PL	Arch	==Ag==	Tab	Lezg	Rut	Tsakh	Kryz	Bud	Ud
*c	s	c	c	c	c-,-s/-c	c-/s-,c	?-,s	-s-	?-,s
*cʷ	s	c	čᵛ/c	c(ʷ)/kʷ	c		c	-s-	?-,s
*c:	c	z	ʒ/z	c:,-z	z/ʒ	z	z-/ʒ-,z	z	c-,z/žI
*c:ʷ	c	zʷ/z	ǯᵛ/žᵛ	c:(ʷ)/ k:(ʷ),-z	z(ʷ)	z	z	z	z
*ç	ç	ç	ç	ç	ç	ç	ç	ç	Ø,-ç
*çʷ	ç	ç(ʷ)	čᵛ	ç(ʷ)/k̟(ʷ)	ç	ç	ç		

PL	Arch	Ag	Tab	Lezg	Rut	Tsakh	Kryz	Bud	Ud
*ç:	ç,-ç:-	t:	c:-/z-, c:	ṭ-/ç-/t:-/c:-, -ṭ-/-ç-/-t:-/-c:-,-t	d-,-dd-/-d-/-t-,-t	d-,-t:-,-t	t	t	c: (~č:~čI)
*ç:ʷ	ç-,-ç:-	t:	čᵛ:-/žᵛ-/ʒ-,č:ᵛ/žᵛ	ṭ(ʷ)/t:(ʷ),-t	d-,-dd-	d-,-t:-,-t	t	t	c:
*č	š	č (/-š?)	č	č-/š-,č	č-/š-,č	č	č-/š-,č	š-,č	č-,-č/-čI/-š/-šI
*čʷ	š	č(ʷ)/ḱ	čʷ(/č)	č	š-	č-	š-	š-	č
*č:	č	ʒ/ž	ʒ/ž	č:,-ž	ʒ	ʒ-,-ʒ-/-ž-,ʒ	ʒ	ʒ	č:(?)
*čʷ:	č(ʷ)	ʒ(ʷ)/ž(ʷ)	ʒᵛ/žᵛ	c:(ʷ)/k:(ʷ)/č:(ʷ), -ž(ʷ)	ʒ(ʷ)	ʒ(ʷ)-,-ʒ-/-ž-	ʒ-	ʒ-	-žI-
*ç	ç	ç	ç	ç	ç	ç	ç	ç	Ø/č:/č:I
*çʷ	ç(ʷ)	č(ʷ)/ḱ	čᵛ/č	ç(ʷ)/ ḳ(ʷ)/ ç(ʷ)	č(ʷ)	ç	ç	ç	Ø/č:
*č:	-č-	č:	č:-/ʒ-,č:	ç-/č:-,-č-/-t:-	č	č?	č-	?	č:-,-č-
*ƛ	ƛ	k/x/š	k/x/š	g	x	k-,x	x	x	-q:/-q
*ƛʷ		kʷ	k(ʷ)	f					
*ƛ:	ƛ	j/g/Ø	g/ɣ/ž/w/š	g/ž/w	ɣ/w/j	ɣ-,-ɣ-/-l-	ɣ/w	j	q-,-ʁ
*ƛ:ʷ	ƛ	-w-,-ʁʷ	g/ɣ	g	ɣ		ɣ		
*ƛ̣	ḳ	ḱ	k/č	q̇/k	q̇	k/q̇	q̇/k	q̇/k	Ø(/k:-)
*ƛ̣ʷ	-ḳʷ	-ḱʷ			-q̇		-q̇		
*ƛ̣:	ƛ̣	k:	k:/g/č:/ʒ	ḳ/k:,-k	g,-k	g-,-k:-,-k	k	k	q:
*ƛ̣:ʷ	ƛ̣ʷ-	k:(ʷ)	k:(ʷ)	ḳ(ʷ)/k:(ʷ), -kʷ	?-,-g(ʷ)-,-k(ʷ)	g-,-k:-,-k(ʷ)	k	k	-q:
*q	χ	q	q	q-	q-,χ	q	q	-q-	q-,-q:?
*qʷ	χʷ	q(ʷ)	q(ʷ)	qʷ-,-ʁʷ	qʷ,-χʷ	qʷ	-χ	-χ	-q
*q:	q	ʁ/ʕ	q:/ʁ	q:,-ʁ	q:/ʁ	q:/ʁ	q:-,-ʁ	q:-,-ʁ	ʁ
*q:ʷ	qʷ	ʁ(ʷ)/ʕ(ʷ)	q:/ʁʷ	q:(ʷ), -ʁ(ʷ)	ʁʷ	-ʁ-			ʁ

PL	Arch	Ag	Tab	Lezg	Rut	Tsakh	Kryz	Bud	Ud
*q̇	q̇	q̇	q̇	q̇	q̇	q̇	q̇	q̇	Ø
*q̇ʷ	q̇ʷ, -q̇(ʷ)-	q̇(ʷ)	q̇(ʷ)	q̇(ʷ)	q̇(ʷ)	q̇(ʷ)	-q̇	q̇	-p:
*q̇:	q̇-,-q̇:-	q:	q:	q̇-/q:-, -q̇-/-q:-	q:	q:	?-,-q-	q	q:
*q̇:ʷ	q̇(ʷ)-	q:(ʷ)	q:(ʷ)	q̇(ʷ)-/q:(ʷ)-, -q̇-/-q:-	q:-, -qʷ	q:-	-qʷ-	q:-?	q:-
*qI	χI	qI	qI	q-,-q-	qI-,-qI-	qI	q-	q-	ʁI-
*qIʷ	χI(ʷ)	qI(ʷ)	qI(ʷ)	qʷ-,-ʁ(ʷ)	qIʷ,-χI(ʷ)	qI	-ʁ?	-ʔ	-qI/-χI
*q:I	qI	R̀/ʁI/ʕ	q:I/ʁI	q:,-ʁ	ʁI	q:I/ʁI	q:-,-ʁ	q:-	ʁ(I)
*q:Iʷ	qI(ʷ)	R̀/ʁI/ʕ	qI:-/ʁI-	q:(ʷ)-	ʁI-	qI:/ʁI			
*q̇I	q̇I	q̇I/ʔ	q̇I	q̇	q̇I	q̇I	q̇	q̇	
*q̇Iʷ	q̇I(ʷ)	q̇I(ʷ)/ʔ	q̇I(ʷ)	q̇ʷ	q̇I(ʷ)	q̇I	q̇(ʷ)	q̇	p:/Ø,ʁI
*q̇:I	-q̇:I-, -q̇I	q:I/q:	q:I	q̇/q:, -q	q:I, -qI	-q:I-, -qI	q	q	q:I/ʁI
*q̇:Iʷ	-q̇I:-, -q̇I	q:I(ʷ)/ q:(ʷ)	q:I	-q̇ʷ-/ -q:ʷ-,-q	q:Iʷ-, -qI	-q:I-, -qI	-q	-q	q:I/ʁI

Comments.

1. Archi.

As seen from the table of correspondences, the following cardinal changes occurred in Archi: a) PL lax (aspirated) affricates were fricativized (PL *c, *cʷ > Arch. s; PL *č, *čʷ > Arch. š; PL *ƛ > Arch. λ; PL *q, *qʷ > Arch. χ, χʷ; PL *qI, *qIʷ > Arch. χI, χIʷ); b) PL tense (unaspirated) affricates were weakened (*c:, *c:ʷ > Arch. c; *č:, *čʷ: > Arch. č, čʷ; *ƛ:, *ƛʷ: > Arch. ƛ; *q:, *qʷ: > Arch. q, qʷ; *qI:, *qIʷ: > Arch. qI, qIʷ). It must be noted that the reflexes of PL tense affricates in Archi on the phonetic level are still tense in the intervocalic position, being affected by weakening only in initial and final positions; but the tense articulation of Archi affricates is no longer phonologically relevant, because of the absence of the "tense-lax" opposition in the system of non-glottalized affricates.

Lax glottalized affricates were not changed in Archi, as far as the reflection of laryngeal features is concerned (cf. *ç > Arch. ç, *č̇ > Arch. č̇, etc.). As for tense glottalized affricates, they have preserved their tense articulation in the medial position (where *ç: > Arch. ç:, *q̇: > Arch. q̇:, *q̇I: > Arch. q̇I:), but have been weakened in initial and final positions (cf. the similar behaviour of tense non-glottalized affricates). Somewhat different are the reflexes of PL *č̇:, that yields č̇ in medial position (the phoneme č̇: is therefore completely missing in Archi), and the reflexes of *ƛ̇:, that yields ƛ̇ in all positions. The latter phoneme is phonetically rather tense, though there is no ƛ̇-ƛ̇: opposition in Archi. Such behaviour of *ƛ̇: is apparently connected with an early development of PL lax *ƛ̇ > Arch. ꝃ, as a result of which ƛ̇: became the only Archi lateral glottalized phoneme.

Archi has well preserved the labialization of PL uvular affricates; the labialization of PL hushing and lateral affricates is preserved somewhat more poorly; finally, the labialization of PL hissing affricates is altogether lost.

2. Agul.

The Agul language has well preserved PL lax (aspirated) and lax glottalized affricates (cf. *c > Ag. c, *č > Ag. č, *ƛ > Ag. k, *q > Ag. q, *qI > Ag. qI; *ç > Ag. ç, *čʼ > Ag. čʼ, *ƛ̣ > Ag. ḳ, *q̇ > Ag. q̇, *q̇I > Ag. q̇I). The fricativization *č > š occurs sporadically (in one case: Bursh. muš "hope" < PL *muč "wind"). The fricative reflex x (š in the Koshan dialect) is attested for PL *ƛ in combination with the preceding resonant -r- (cf. Ag. *jerxi-d*, Bursh. *jerši-r* "six" < PL *riƛɨ-; Ag. *murx*, Bursh. *murš* "deer" < PL *meIrƛ). We must also note the specific development *q̇I > ʕ in Agul proper and in the Burkikhan dialect (while the Keren, Koshan and Fite dialects preserve q̇I).

Tense (unaspirated) affricates in Agul, as in most Lezghian languages, have been voiced; the resulting voiced affricates have been for the most part fricativized afterwards. Thus, PL *c: > Ag. z; PL *č: > Ag. ž (in the Keren dialect; the Fite dialect has a free variation ǯ-/ž- in initial position and preserves the affricate ǯ in non-initial position; the Koshan and Burkikhan dialects have preserved the affricate character of ǯ < PL *č: in all positions); PL *ƛ: > Ag. j/g/∅ (in the Keren dialect — always j; in the Koshan dialect g- in initial position before the vowel a, the variation j-/∅- in initial position before the vowel i, j in other cases; such reflexation obviously points to the presence of the fricative *γ in the preceding stage of development); PL *q: > Ag. ʁ (with a further laryngealization ʁ > ʕ in the Koshan dialect); PL *qI: > Ag. ʁI (only in the Fite dialect; the Keren, Koshan and Burkikhan dialects have had a shift towards the pharyngeal series, i.e. ʁI > R̰, and Agul proper — a further laryngealization: R̰ > ʕ). Deviations from these rules concern only a special reflexation of PL *ƛ: in combinations with preceding resonants (for examples, see the dictionary), as well as a sporadic reflection of PL *q: as q: (without fricativization). The latter phenomenon is apparently observed in loanwords from Tabasaran.

Tense glottalized affricates have lost their glottalization in Agul and have developed into tense ones (this could evidently happen only after the voicing of PL tense non-glottalized affricates). Therefore, PL *ç: > Ag. t: (with the loss of the fricative component); PL *č̣: > Ag. č:; PL *ƛ̣: > Ag. k:; PL *q̇: > Ag. q:; PL *q̇I: > Ag. qI: (it is interesting to note that the Burkikhan dialect, usually preserving the pharyngealization quite well, loses it in this case and has the reflex q:).

Typical for Agul, as well as for most other Lezghian languages, is the velar character of the reflexes of PL laterals. The original reflexes of the PL laterals were apparently palatal; in particular, this is confirmed by the fact that PL *ƛ̣ in Agul always yields a palatal ḱ, and *ƛ — a palatal x́ (in the case of fricativization). Reflexes of other lateral phonemes (including labialized ones) in Agul do not preserve palatalization anymore: PL *ƛ > Ag. k (without fricativization); PL *ƛʷ > Ag. kʷ; PL *ƛ: > Proto-Ag. *γ (see above); PL *ƛ:ʷ > Proto-Ag. *γʷ (in modern Agul *γʷ changed to -w- in medial position and apparently to -ʁʷ in final position); PL *ƛ̣ʷ > Ag. kʷ; PL *ƛ̣: > Ag. k:; PL *ƛ̣:ʷ > Ag. k:ʷ.

Labialized affricates are well preserved in Agul. Thus, no changes occurred in the articulation of labialized hissing (zʷ, çʷ), labialized laterals (velarized in Agul: kʷ, *γʷ > w, ḳʷ, k:ʷ), labialized uvulars (qʷ, ʁʷ, q̇ʷ, q:ʷ, qIʷ, q̇Iʷ, q:Iʷ). We should

specially dwell upon the Agul reflexes of PL labialized hushing affricates. The Keren and Burkikhan dialects preserve proper labialized hushing sounds (i.e. phonetically bilabialized); the Koshan dialect has turned bilabialized hushing consonants into dentolabialized; finally, in the Fite dialect labialized hushing consonants develop into palatalized (labialized) velars. Cf. *čʷ > Fit. ḱ(ʷ); *č̣(ʷ) > Fit. ḱ̇(ʷ); a similar reflex could be expected for PL *č:ʷ, but reflexes of this phoneme in the Fite dialect are not known. (Labialization is put in parentheses, because in all cases it is transferred onto the adjacent vowel and, therefore, becomes nonphonological.)

Some PL labialized phonemes lose their labialization in Agul. Delabialization is obligatory in the reflexes of PL *ç̇:ʷ (> Ag. t:); *q:Iʷ (> Ag. R̃, ʕ: the consonants R̃, ʕ do not have labialized correlates in Agul; in one case, however, we may suppose a development of PL *qIʷ: > Ag. w (b in the Keren dialect), cf. PL *ʔiqIʷ:ä "to go" > Ker. baI-s, Bursh. wä-s, Tp. wä-s). Quite often, however, labialization is transferred onto the adjacent vowel even from those consonants, that are theoretically able to preserve it. This explains, e.g., the fact that PL *cʷ (being in general a very rare phoneme) is reflected in Agul only as c (though theoretically cʷ is possible, cf. the presence of phonemes zʷ < *c:ʷ, ç̇ʷ < *ç̇ʷ).

3. Tabasaran.

The development of PL affricates in Tabasaran is very similar to their development in Agul, described above. Thus, lax (aspirated) and lax glottalized consonants are preserved, as in Agul: *c > Tab. c; *č > Tab. č; *ƛ > Tab. k; *q > Tab. q; *qI > Tab. qI; *ç > Tab. ç; *č̣ > Tab. č̣; *ƛ̣ > Tab. k̇/č̇; *q̇ > Tab. q̇; *q̇I > Tab. q̇I. (An exception: the fricativization of PL *ƛ > Tab. x/š in combination with a preceding -r-, cf. Tab. *jirxu-b* "six" < PL *riIƛɨ-; Tab. *merš* "deer" < PL *meIrƛ).

Tense (unaspirated) affricates in Tabasaran, as in Agul, have voiced reflexes. Cf. PL *c: > Tab. ʒ (in the Northern dialect; the Southern dialect (Kandik subdialect) preserves ʒ after resonants — in the combinations rʒ, lʒ, etc. — but has z in other cases; literary Tabasaran always has z); PL *cʷ: > Tab. ǯᵛ (apparently in all dialects, though in literary orthography, the affricate ǯᵛ and the fricative žᵛ are not distinguished); *č: > Tab. ǯ (in all dialects; in literary orthography we meet ž as well, because ǯ and ž are not distinguished); PL *č:ʷ > Tab. ǯᵛ (in the Northern dialect; in the Southern dialect the affricate ǯᵛ is preserved in non-initial position, but develops into the fricative žᵛ- in the initial position); PL *ƛ: > Tab. ɣ/ž/w (with the following distribution: in initial position in all dialects ɣ- before back vowels, ž- before front ones; in medial position in all dialects -w- before back vowels, -ž- before front ones; in final position — if the word (noun) has an oblique stem with a back vowel, it reflects *ƛ: as -ɣ in the Northern dialect and some Southern subdialects (Kandik), -w in other Southern subdialects (Khiv) and in literary language; if the oblique stem contains a front vowel, the Southern dialect (Kandik) has -ž, while the Northern dialect and literary language have -j. The reflexes of *ƛ: may be somewhat modified in clusters with preceding resonants: in this position we can observe secondary occlusivization between vowels (like -rɣ- > -rg-, etc.), as well as a devoicing at the end of the word (like -rɣ > -rž > -rš etc.). The wide variety of

reflexes of *ƛ: can be easily explained here by the fricative articulation *ɣ in all positions in Proto-Tabasaran. A somewhat specific situation is characteristic for the reflexes of tense PL *q: and *q:I. Here the Northern dialect preserves the voiceless articulation q:, q:I, while the Southern dialect has normal voiced reflexes (already fricativized): ʁ, ʁI. According to the private information of S. V. Kodzasov, the summer 1980 MSU expedition has discovered the opposition G (voiced) — q: (voiceless), not described before, in the Dübek subdialect of the Northern dialect of Tabasaran. G here has developed from PL *q:, and q: — from PL *q̇: (see below). Thus, the main principle of the voiced reflexation of PL tense (unaspirated) phonemes seems to be observed in the system of uvulars as well.

PL tense glottalized consonants in Tabasaran, as in <mark>Agul</mark>, have lost their glottalization and give tense reflexes. Cf. PL *ç: > Tab. c:; PL *ç:ʷ > Tab. č:ʷ; PL *č̣: > Tab. č:; PL *ƛ̣: > Tab. k:/č:; PL *ƛ̣ʷ: > Tab. k:ʷ; PL *q̇:,*q̇ʷ: > Tab. q:, qʷ:; PL *q̇I:, q̇Iʷ: > Tab. qI:. In some cases, however, we observe the further voicing of the reflexes of PL tense glottalized sounds. Thus, PL *ç: > z in the initial position in the Northern dialect (Dübek) and in the literary language (in the Dübek subdialect we additionally observe the development *-rç:- > -rʒ-). PL *ç:ʷ is reflected as žᵛ (in all positions) in literary Tabasaran and yields a voiced delabialized ʒ- in initial position in the Dübek subdialect; PL *č̣: is voiced in initial position in Dübek (*č̣:->*č:> ʒ-), but preserves its voicelessness in the literary language. The tense glottalized *ƛ̣: also has the initial voiced reflexes g-/ʒ- in the Dübek subdialect, but is never voiced in the Southern dialect and in the literary language. In general, most subdialects of the Southern dialect (e.g. the Kandik subdialect) are rather conservative in this respect and always reveal voiceless tense reflexes of PL tense glottalized consonants.

PL lateral affricates in Tabasaran, as in <mark>Agul</mark>, originally had palatal reflexes. These palatals afterwards developed into velars before back vowels, but were affricated and changed into hushing affricates before front vowels (as opposed to the ancient velar consonants, that were not affricated in any position). Thus, in the position before front vowels PL *ƛ: > Tab. ž, PL *ƛ̣ > Tab. č, PL *ƛ̣: > Tab. č: (in the Northern dialect ʒ- in initial position); the Tabasaran reflex of *ƛ before front vowels is not attested.

The Southern dialect of Tabasaran has well preserved the PL labialized affricates (only the hissing and hushing labialized consonants have merged in one dentolabialized series). Cf. PL *cʷ, *čʷ > Tab. čᵛ; PL *c:ʷ, č:ʷ > Tab. ʒᵛ/žᵛ; PL *çʷ, *čʷ > Tab. čᵛ; PL *ç:ʷ > Tab. č:ᵛ/žᵛ; PL *ƛʷ > Tab. kʷ; PL *ƛ:ʷ > Tab. k:ʷ; PL *qʷ > Tab. qʷ; PL *q:ʷ > Tab. ʁʷ; PL *q̇ʷ > Tab. q̇ʷ; PL *q̇:ʷ > Tab. q:ʷ; PL *qIʷ > Tab. qIʷ; PL *q̇Iʷ > Tab. q̇Iʷ. Depending on the vocalic environment, the PL labialized affricates could, however, be subject to early delabialization (with a transfer of labialization onto the adjacent vowel); in this case Tabasaran preserves the original hissing or hushing character of the affricate (which indicates that the merger of hissing and hushing labialized consonants within one series occurred comparatively late). For some PL labialized consonants, because of the process of delabialization, only non-labialized Tabasaran reflexes are attested (this is true for the PL affricates *ƛ:ʷ, *q:Iʷ and *q̇:Iʷ).

The Northern dialect of Tabasaran has completely lost the labialization of back consonants, but has preserved the dentolabialized series. Here, therefore, the correlation in labialization is already lost, and the dentolabialized consonants form just one more local series of front affricates, in addition to the hissing and hushing series.

4. Lezghi.

The Lezghi language has well preserved the laryngeal features of PL affricates. Lax (aspirated), tense (unaspirated) and lax glottalized affricates are generally preserved here. Cf. PL *c > Lezg. c; PL *č > Lezg. č; PL *q > Lezg. q; PL *qI > Lezg. q; PL *c: > Lezg. c:; PL *č: > Lezg. č:; PL *q:, *qI: > Lezg. q:; PL *ç > Lezg. ç; PL *č̣ > Lezg. č̣; PL *ƛ > Lezg. q̇/ḳ; PL *q̇,*q̇I > Lezg. q̇. Here, however, we must dwell on the following details:

a) PL *č is apparently fricativized in Lezghi before PL narrow vowels (on a similar process in Rutul, Kryz and Budukh see below), though there is only one example of this rule: Lezg. *šarag* "cub" < PL *čɨrag*ʷ*.

b) The uvular labialized *qʷ and *qIʷ in Lezghi are reflected as voiced consonants in final position, i.e. PL *qʷ, *qIʷ > Lezg. -ʁʷ. The same voiced reflexes could be expected for PL *q, *qI, but final reflexes of these phonemes are not attested in Lezghi (cf., however, *reʁü* "shameful", presupposing *reʁ* "shame" < PL *riwqI). The PL lax lateral *ƛ has been voiced in Lezghian and is reflected as g (in some dialects also as ɣ) in all positions.

c) PL tense (unaspirated) affricates have been preserved in Lezghi in initial and medial positions, but have been voiced in the final position (cf. above on a similar process in the system of explosives). The resulting voiced final affricates were later fricativized. Thus, PL *c: > Lezg. -z; PL *č: > Lezg. -ž; PL *q:, *qI > Lezg. -ʁ.

The PL lateral affricate *ƛ: yields voiced reflexes in all positions; in initial position Lezghi has either g- or ž- (their distribution is not quite clear); in final position either -g/-ž (the latter — if the oblique stem has a front vowel) or -w (after PL labialized vowels). This reflexation is evidently connected with the early fricativization *ƛ: > *gɣ > ɣ (on a similar process in <mark>Agul</mark> and Tabasaran see above). The fricative ɣ is still preserved in the Yarki dialect, but all other dialects of the Lezghi language already have the explosive g.

The PL tense glottalized affricates yield glottalized reflexes in initial and medial positions in Northern dialects (Güne, Yarki) and in the literary language, but tense (unaspirated) ones in the Kurakh and Akhty dialects. Cf. PL *ç: > lit. ṭ/ç, Akht. ṭ/ç; PL *č̣:> lit. č̣, Akht. č:-, -t:-; PL *ƛ̣: > lit. ḳ, Akht. k:; PL *q̇:, *q̇I:> lit. q̇, Akht. q:. This reflexation (contrasting with the reflexation of lax glottalized consonants, uniformly yielding glottalized reflexes in all dialects) apparently points to the presence of tense glottalized consonants as late as in Proto-Lezghi. However, in final position PL tense glottalized consonants were early deglottalized and yield voiceless (aspirated) reflexes in all dialects (*-ç: > -t, *-ƛ̣: > -k; *-q̇I: > -q). It is necessary to pay attention to the desaffricatization of the reflexes of PL *ç: (cf. a similar process in <mark>Agul</mark>, see above, as well as in Rutul, Kryz and Budukh, see

below). The presence of parallel hissing reflexes (ç or c:, depending on the dialect) is apparently the result of a late secondary affricatization before front vowels (these reflexes are observed only in this position; on the same affricatization of PL explosives *ţ, *t:, *ţ in Lezghi see above).

The transformation of PL laterals into back consonants in Lezghi apparently proceeded in a somewhat different way than in Agul and Tabasaran. Here the lateral affricates must have originally changed into velar affricates. In particular, PL *X̣ developed into the velar *ḳx; afterwards the affricate articulation of this consonant was lost if it was adjacent to back vowels (where *X̣ > *ḳx > *ḳ), but it was preserved somewhat longer in the case of palatalization (before front vowels or in the vicinity of hushing consonants, which are phonetically palatalized in all Lezghian languages). The affricate *ḳx, preserved in this position, later developed into the uvular affricate q̇χ = q̇ (NB: the sounds which we denote as q and q̇ are phonetically affricates /qχ/ and /q̇χ/ in all North Caucasian languages). Cf. PL *X̣an "bottom" > Lezg. ḳan, but PL *X̣in "oath" > Lezg. q̇in, PL *X̣ača > Lezg. q̇ač "stem", etc. Other lateral affricates in modern Lezghi only have explosive velar reflexes (on the reflection of PL *ƛ and *ƛ: in Lezghi, see above).

Labialized affricates are preserved in Lezghi (though, like other languages, Lezghi often has a secondary delabialization in certain vocalic contexts; therefore, for such rare PL phonemes as *čʷ > Lezg. č and *ƛ:ʷ > Lezg. g, only delabialized reflexes are attested). Cf. PL *ƛʷ > *xʷ (with a fricativization!) > Lezg. f; *X̣:ʷ > Lezg. ḳʷ/kʷ:/kʷ; *qʷ, *qIʷ > Lezg. qʷ/ʁʷ; *q:ʷ, *q:Iʷ > Lezg. q:ʷ/ʁʷ; *q̇ʷ, *q̇Iʷ > Lezg. q̇ʷ; *q̇:ʷ, *q̇:Iʷ > Lezg. q̇ʷ/q̇ʷ:.

PL labialized hissing and hushing consonants yield specific reflexes in Lezghi. Hissing labialized consonants are preserved in Kurakh, Güne and some subdialects of the Akhty dialect (the subdialect of the village Khliut), develop into hushing labialized in most subdialects of the Akhty dialect, and change into labialized velars in the Yarki dialect. Thus, PL *cʷ > Gün., Kur., Khl. cʷ, Akht. čʷ, Yark. kʷ; PL *çʷ > Gün., Kur., Khl. çʷ, Akht. čʷ, Yark. ḳʷ; PL *c:ʷ > Gün., Kur., Khl. c:ʷ, Akht. č:ʷ, Yark. k:ʷ. The literary Lezghi, based on Güne and Yarki dialects, reveals a variation between hissing and velar reflexes (but never has hushing ones). A specific reflection is attested for the early desaffricatized PL *ç:ʷ, which has dental labialized reflexes (ţʷ or t:ʷ) in the initial and medial positions (on the dialectal distribution of the reflexes of tense glottalized consonants see above) and -t (with an obligatory delabialization) in the final position.

Hushing labialized consonants are preserved in the Kurakh and Akhty dialects (including the subdialect of the village Khliut), develop into hissing labialized in the Güne dialect, and yield labialized velars in the Yarki dialect. Thus, PL *č:ʷ > Kur., Akht., Khl. č:ʷ, Gün. c:ʷ, Yark. k:ʷ; PL *č̣ʷ > Kur., Akht., Khl. č̣ʷ, Gün. ç̣ʷ, Yark. ḳʷ. Therefore, the distinction between PL hissing and hushing labialized consonants is preserved only in the Kurakh dialect, as well as in some subdialects of Akhty (Khlyut); in other dialects they either merge in hissing labialized consonants (Güne dialect), or in hushing labialized consonants (Akhty dialect), or else in labiovelar consonants (Yarki dialect).

Literary Lezghi, in the place of PL labialized hushing consonants, has a variation among all three types of reflexes, which suggests that the Kurakh dialect has also taken part in its formation (and not just Güne and Yarki).

A specific feature of Lezghi is the loss of pharyngealized consonants, whose reflexes have merged with the reflexes of nonpharyngealized ones. However, we must note that vowels adjacent to originally pharyngealized consonants in Lezghi are regularly fronted. Therefore, in most cases the presence or lack of original pharyngealization can be determined by the character of the adjacent vowel. In some Lezghian dialects (e.g., in Akhty) pharyngealization is still preserved by the vowel äI (< *a adjacent to uvular pharyngealized) and in this case, of course, the pharyngealization of respective consonants is still there, though it may already be considered phonologically irrelevant. In most dialects, however, pharyngealization is lost completely.

5. Rutul.

The PL lax (aspirated) affricates are generally well preserved in Rutul (cf. PL *c, *cʷ > Rut. c; PL *č > Rut. č; PL *q > Rut. q-; PL *qʷ > Rut. qʷ-; PL *qIʷ > Rut. qIʷ-). However, in some positions we observe the fricativization of PL lax affricates. Thus, in final position uvular affricates are regularly fricativized: *q > Rut. -χ, *qʷ > Rut. -χʷ, *qIʷ > Rut. -χIʷ. The affricate articulation of the final *-c is preserved only in the Khnov dialect and in some subdialects of the Mukhad dialect (Kiche); in most Rutul dialects, *-c was also fricativized: *-c > -s. PL *č was fricativized before the original narrow vowel *ɨ (cf. PL *ri-čij "sister" > Rut. riši, PL *čɨragʷ > Rut. šarak "chick"), but was left intact in other positions. Finally, for the PL affricates *čʷ and *ƛ, only fricative reflexes (resp. š and x) are attested in Rutul.

The quality of PL lax glottalized affricates has been preserved in Rutul (cf. PL *ç, *çʷ > Rut. ç; PL *č̣, *č̣ʷ > Rut. č̣, č̣ʷ; PL *ƛ̣,*ƛ̣ʷ > Rut. q̇; PL *q̇, *q̇ʷ > Rut. q̇, q̇ʷ; PL *q̇I, *q̇Iʷ > Rut. q̇I, q̇Iʷ).

PL tense (unaspirated) affricates have been voiced in Rutul. Cf. PL *c: > Rut. ʒ/z (ʒ before the narrow ɨ; in other cases the fricativization ʒ > z usually happens); PL *c:ʷ > Rut. zʷ; PL *č: > Rut. ǯ; PL *č:ʷ > Rut. ǯʷ; PL *ƛ:, *ƛ:ʷ > Rut. ɣ/w/j (in non-final position ɣ before a, w before ɨ, j before front vowels; in final position usually -j, but after the vowel i the reflex -ɣ is preserved by dissimilation); PL *q: > Rut. q:/ʁ (the articulation /q:/ is preserved only in initial position before the vowel a, in other cases the fricativization q: > ʁ occurs); PL *q:ʷ > Rut. ʁʷ; PL *q:I, *q:Iʷ > Rut. ʁI. It is evident that at first PL tense consonants changed into voiced affricates, most of which were later fricativized (the hushing ǯ has been preserved best of all; in some positions the hissing ʒ and the uvular q: have been preserved as well).

[We must note that in Rutul the notation q: is to be treated phonologically as a voiced uvular phoneme, because (at least in most Rutul dialects) the opposition q: — G is missing. On the phoneme q̄: (G:) , present in some Rutul dialects, see below.]

PL tense glottalized consonants have lost their glottalization in Rutul and yield the following reflexes. In initial position in all dialects we observe voiced reflexes (PL *ç: > Rut. d; PL *ç:ʷ > Rut. d; PL *ƛ̣: > Rut. g; PL *q̇:,*q̇:ʷ > Rut. q:; PL *q̇:I, *q̇:Iʷ > Rut. q:I, q:Iʷ). In final position all the dialects have voiceless reflexes (PL *ç: > Rut. -t; PL *ƛ̣:, *ƛ̣:ʷ > Rut. -k, -kʷ; PL *q̇:ʷ > Rut. -qʷ; PL *q̇:I, *q̇:Iʷ > Rut. -qI).

In intervocalic position Rutul has peculiar reflexes: in the Myukhrek dialect — tense voiced consonants (*ç: > Myukhr. -d:-, *ӽ: > Myukhr. -g:-, *q̇: > Myukhr. -G:-, *q̇:I > Myukhr. -G:-); in the Ikhrek dialect — tense voiceless (resp. -t:-, -k:-, -q̇:-, -q̇:I-); in the Shinaz dialect — lax voiceless (-t-, -k-; the reflexes of tense glottalized uvulars are not known to us). Finally, the Mukhad dialect usually has lax voiced reflexes (resp. -d-, -g-, -q-, -qI:-), but the Luchek subdialect of the Mukhad dialect has a variation of tense and lax voiced reflexes.

[We do not mark the difference between -q̇:- and -G:- in the orthography; the symbol q̇: in Myukhrek and Luchek means a tense voiced uvular, and in Ikhrek — a tense voiceless one. Within one dialect system a distinction between tense voiced and tense voiceless consonants never exists].

Labialized tense glottalized consonants give similar reflexes.

A specific reflex is yielded by the rare PL phoneme *č̣: : in the Mukhad and Khnov dialects it is reflected as č (its reflexes in other Rutul dialects are unknown to us); cf. PL *č̣:älm "butter"> Rut. Khn. čam; PL *harč̣:- "right" > Rut. harčä-d. (Such reflexes are typical for Kryz and Budukh, see below).

The Rutul language preserves labialized uvulars rather well; labialized laterals (developing into labiovelars) and labialized hushing phonemes — somewhat worse; and it has virtually lost labialized hissing consonants (in modern Rutul they are extremely rare; we know only ç^w in the word ç^war "stone" and z^w in the verb luz^was "to stand", where labialization can be considered positional after the vowel -u-). In most cases labialization is lost on a consonant, but preserved on the adjacent vowel (which becomes labialized).

6. Tsakhur.

Lax PL affricates are usually preserved in Tsakhur. Cf. PL *c > Tsakh. c; PL *č > Tsakh. č; PL *č^w >Tsakh. č; PL *ӽ >Tsakh. k-; PL *q > Tsakh. q; PL *q^w > Tsakh. q^w; PL *qI, *qI^w > Tsakh. qI; PL *ç, *ç^w>Tsakh. ç; PL *č̣, *č̣^w > Tsakh. č̣; PL *ӽ̣ > Tsakh. ḳ/q̇; PL *q̇ > Tsakh. q̇; PL *q̇^w >Tsakh. q̇^w; PL *q̇I, *q̇I^w > Tsakh. q̇I. Only in two cases do we observe the fricativization of PL lax (aspirated) affricates: a) PL *c in initial position gives s- in Tsakhur proper, but is preserved in the Mikik and Gelmets dialects (cf. Mik., Gelm. cɨwíĺ, Tsakh. suwuĺ "autumn"); b) PL *ӽ gives the explosive reflex k- in initial position (cf. kuma "smoke" < PL *ӽuma), but is fricativized and gives -x- in medial position (cf. jixɨ-lle "six" < PL *riӽɨ-).

PL tense (unaspirated) affricates in Tsakhur, as in most other Lezghian languages, are affected by voicing and are often fricativized afterwards. Thus, PL *c:, *c:^w > Tsakh. z; PL *č:, *č:^w > Tsakh. ǯ/ž (in Tsakhur proper the affricate articulation ǯ is always preserved; the Mikik and Gelmets dialects have ǯ- in initial position, but the fricative ž in other cases); PL *q: > Tsakh. q:/ʁ (the articulation q: is preserved only in initial position in Tsakhur proper; in other positions in Tsakhur and in all positions in the Mikik and Gelmets dialects we observe the reflex ʁ); PL *qI: > Tsakh. qI:/ʁI (with the same distribution of reflexes). PL *ӽ: usually yields ɣ, but there is also a very specific development of PL *ӽ: > Tsakh. l, observed in medial position before front vowels (cf. Tsakh. h-ele-s "to give" < PL *ʔiӽ:ɨ-; Tsakh. moli-lle "eight" < PL *menӽ:ä-). This is surely a valuable argument for the legitimacy of the reconstruction of lateral (and not

velar or palatal) affricates in PL.

PL tense glottalized affricates in Tsakhur are reflected in the same way as in the Ikhrek dialect of the Rutul language (see above), i.e. in initial position they have voiced reflexes, in medial position — tense (voiceless) ones, in final position — lax voiceless ones. For PL hushing *č: we know only the reflex in initial position, where, as in Rutul (see above), we observe the development *č:- > Tsakh. č-.

Lateral affricates in Tsakhur developed similarly to Lezghi and Rutul (see above), i.e. they first developed into velar affricates, and afterwards into velar explosives or velar fricatives (on a specific development of PL *ƛ: in Tsakhur see above). In fact, the affricate *ḳχ, in particular, should still have been present in Proto-Tsakhur: in Mikik and Tsakhur proper it has merged with the original velar explosive ḳ, while the Gelmets dialect reflects it as the uvular affricate q̇. Thus, PL *ƛ > Mik., Tsakh. ḳ, Gelm. q̇.

Labialized consonants in modern Tsakhur are in the process of disappearing. In our materials we only find the labialized ӡw (< PL *č:ʷ), -kʷ (< PL *-ƛ:ʷ), q̇ʷ (< PL *q̇ʷ). In most cases labialization was transferred from the consonant onto the adjacent vowels.

7. Kryz.

PL lax (aspirated) affricates in Kryz are generally preserved, but have a rather strong tendency to become fricativized. Thus, for PL *c, only a fricativized reflex s is attested (though the labialized *cʷ is not fricativized and yields Kryz c); PL *č develops into the fricative š before the PL narrow *ɨ (on a similar development in Lezghi and Rutul see above), but is otherwise preserved. The labialized *čʷ yields only the fricative reflex š; PL *ƛ > Kryz x reveals the same fricativization. Labialized PL *qʷ (> Kryz -χ) and PL *qIʷ are reflected as fricatives as well; the latter phoneme has an unexpected voiced reflex ʁ (cf. Kryz meʁ "oak" < PL *maqIʷa). However, reflexes of uvular lax labialized affricates in Kryz are observed only in final position; in other positions fricativization probably would not be observed. The non-labialized uvular lax affricate *q is reflected as q in all known Kryz examples; for *qI in final position the reflex -ħ is attested (cf. *χI > ħ, see below), but in other positions *qI is not fricativized and yields Kryz q.

Lax glottalized affricates are preserved in Kryz, cf. PL *ç, *çʷ > Kryz ç; PL *č, *čʷ > Kryz č; PL *ƛ > Kryz q̇/ḳ; PL *q̇, *q̇ʷ, *q̇I, *q̇Iʷ > Kryz q̇.

PL tense (unaspirated) affricates in Kryz give voiced reflexes; PL *c: > Kryz ӡ/z (the affricate ӡ is preserved only at the beginning of some words in Kryz proper; the distribution of the reflexes ӡ- and z- in this position is probably dependent on prosodic factors; in other positions in Kryz proper and in all positions in the Alik dialect we already see the fricative reflex z); PL *c:ʷ > Kryz z; PL *č:,*č:ʷ > Kryz ӂ; PL *ƛ:, *ƛ:ʷ > Kryz ɣ (but > w before the vowel u); PL *q:,*q:I > Kryz q:/ʁ (in initial position q: is preserved, in other positions q: was fricativized and changed to ʁ — cf. the same development in the Tsakhur dialect of the Tsakhur language, see above).

PL tense glottalized affricates give uniform reflexes in Kryz: lax voiceless in

all positions. Cf. PL *ç:,*ç:ʷ > Kryz t; PL *č: > Kryz č; PL *ƛ:, *ƛ:ʷ > Kryz k; PL *q̇:, *q̇:I > Kryz q; PL *q̇:ʷ, *q̇:Iʷ > Kryz q(ʷ). On a similar development in Budukh, see below. It is evident that this is a result of the weakening of voiceless tense consonants, which appeared through the deglottalization of PL tense glottalized consonants (the previous stage — the preservation of tense voiceless consonants is attested, e.g., in Tabasaran and <mark>Agul</mark>, see above).

Laterals in Kryz have probably developed in the same way as in Lezghi, Rutul and Tsakhur (see above), i.e. first were turned into velar affricates, and afterwards — into velar explosives or fricatives (cf. *ƛ > x, PL *ƛ: > ɣ, PL *ƛ̣: > k). The lax glottalized *ƛ̣ first developed into the velar affricate *ḳx, and then — into the uvular affricate q̇. In a few cases the velar articulation of ḳ is preserved; this apparently happens in initial position of bisyllabic roots as a result of the weakening of the articulation of *ḳx > ḳ (cf. ḳäräp̌ "bone" < PL *ƛ̣orap:, but q̇än "bottom" < PL *ƛ̣an, etc.).

Kryz has completely lost the labialization of front and lateral affricates. In the system of uvulars, labialization is still preserved (thus, the development *q̇:ʷ > Kryz qʷ, *q̇Iʷ > Kryz q̇ʷ is attested), but in most cases labialization is transferred onto the adjacent vowel and becomes irrelevant.

8. Budukh.

PL affricates behave very similarly in Kryz and Budukh. Therefore, we shall examine here only the features distinguishing the Budukh reflexation.

Lax (aspirated) affricates. Here the differences from Kryz concern the reflexation of PL *cʷ (> Bud. s, while Kryz preserves the articulation c) and PL *qIʷ (in final position > Bud. -ʔ, while Kryz has -ʁ, cf. Bud. mulaʔ "meat-worm" < PL *mulVqIʷ). For PL *č in initial position only the reflex š- is attested (before the vowel *ɨ, cf. PL *čɨj "sister" > Bud. ši-der); in other positions one would expect the preservation of č, but there is no evidence available.

Tense (unaspirated) affricates. Budukh always reveals the fricativization *c: > *ʒ > *z (in Kryz ʒ is preserved in some cases, see above). PL *ƛ: is reflected in Budukh as j (in Kryz the intermediate stage — the fricative ɣ — is preserved). Other reflexes are the same.

Glottalized affricates (both tense and lax) in Budukh are reflected in the same way as in Kryz.

As we have already noted above, Kryz still preserves some labialized consonants. Budukh has already completely lost the labialization of consonants.

9. Udi.

Lax (aspirated) affricates in Udi are only partially preserved; rather often they develop into voiceless fricatives. Thus, for PL *c, *cʷ only the final reflex s is observed in Udi (in initial position one could perhaps expect c-, but there are no examples). The hushing č is preserved in initial position, while in final position there is a variation between -č/-š. The affricate reflex q is attested for PL *ƛ, *q, *qʷ, *qIʷ (it must be noted that reflexes of the latter phoneme are attested only in

final position, and that a parallel reflex, -χ, also exists). In some cases Udi reveals an un-expected tense reflex q: in the place of PL lax lateral and uvular affricates (cf. PL *meIrƛ "deer" > Ud. *muq:I;* PL *ʔiqi̱-* "to hold, to find" > Ud. *b-iq:-sun*); the reasons for this development are yet unclear. Finally, Ud. *ʁIaina* "crow" < PL *qIan:* reveals a specific reflex of PL *qI — the voiced fricative ʁ.

Lax glottalized affricates develop in a rather peculiar way in Udi: they give zero reflexes, i.e. they are dropped. Udi apparently had at first eliminated the oral stop if there was a simultaneous glottal one, and afterwards eliminated the glottal stop, too (except, of course, in the initial position, where the glottal stop is automatically pronounced before any vowel). In some specific cases lax glottalized consonants in Udi yield non-zero tense reflexes (the "tense" — "glottalized" opposition is absent in Udi, therefore Udi tense consonants can be treated as glottalized as well). Namely:

a) PL *ç > Ud. c: in final position (cf. PL *u̱i̱çi̱-* "ten" > Ud. *wic:*);

b) PL *ç̌, *ç̌ʷ are also apparently preserved in final position (cf. Ud. *k:äč:* "grain, speck" < PL *ƛača*). Besides, the reflex č: can be preserved in expressive roots (cf. Ud. *č:em* "mud" < PL *č̌ʷVm*), or as a result of an earlier assimilation (cf. Ud. *k:uč:an* "puppy" < PL *ḳurč̣/*kurč̣*);

c) PL *ƛ̣ is reflected as k:- in a single word *k:äč:* "grain, speck" — probably as a result of an early assimilation to the final consonant; in other attested cases *ƛ̣ is reflected as zero in all positions;

d) PL clusters *mƛ, *wƛ, as well as the labialized uvulars *q̇ʷ, *q̇Iʷ are reflected in Udi as the labial explosive p: (cf. PL *näwƛ "dream" > Ud. *nep:;* PL *hIamƛ "sweat" > Ud. *ap:;* PL *ʔi̱q̇ʷä* > Ud. *ap:e-sun* "to be cooked, to ripen"; PL *q̇Iʷä "two" > Ud. *p:aI*).

e) Being delabialized, PL *q̇Iʷ yields a zero reflex in the Vartashen dialect, but the variation hI/ʁI in the Nidzh dialect. PL *q̇I would probably have given the same reflex, but examples of its reflexation in Udi are missing.

PL tense (unaspirated) affricates usually yield voiced fricatives in Udi (apparently through an intermediate stage of voiced affricates). Cf. PL *c: > Ud. z/žI; PL *c:ʷ > Ud. z; PL *č:ʷ > Ud. žI; PL *ƛ: > Ud. -ʁ; PL *q:, *q:ʷ, *q:I > Ud. ʁ. There are, however, some not quite clear exceptions from this rule. Thus, PL *c: in initial position gives Ud. c-; PL *č: is reflected as č: in all available examples; PL *ƛ: gives Ud. q- in initial position.

Tense glottalized affricates in Udi regularly lose their glottalization and become tense voiceless. Cf. PL *ç:, *ç:ʷ > Ud. c:; PL *č̣: > Ud. č:- (though -č- in medial position, cf. Ud. *ača* "right" < PL *ħarč̣:-*); PL *ƛ̣:, *ƛ̣:ʷ > Ud. q:; PL *q̇:, *q̇ʷ: > Ud. q:. Pharyngealized *q̇I:, *q̇Iʷ:, on a par with the normal reflex q:I (sometimes with the loss of pharyngealization, see below), can also be reflected as the fricative ʁI. Both reflexes can vary within the same root.

All lateral affricates regularly yield uvular reflexes in Udi (apparently, through the stage of velar affricates), cf. PL *ƛ > Ud. q:/q; PL *ƛ: > Ud. q-, -ʁ; PL *ƛ̣:, *ƛ̣:ʷ > Ud. q:. Only the PL *ƛ̣ behaves differently: like other PL lax glottalized affricates, it yields Ud. ∅ (see above).

The Udi language has completely lost labialized affricates. However, their presence in some previous stage is confirmed by a special development of certain

labialized consonants in Udi (cf. above on the development of *q̇ʷ).

Unlike Kryz and Budukh, Udi preserves pharyngealization. If, however, the pharyngealizations in Archi, <mark>Agul</mark>, Tabasaran, Lezghi (in dialects), Rutul and Tsakhur correspond well to each other and allow us to reconstruct a reliable series of PL uvular pharyngealized affricates, the old pharyngealization in Udi can sometimes disappear. On the other hand, in some cases a new pharyngealization, missing in other languages, appears. The reason for this, as well as the reason for some other phenomena of Udi historical phonetics, are not yet clear. But it is probable that it was this new Udi pharyngealization that caused the hushing (and partially hissing) series of affricates to split in two: palatalized (non-pharyngealized) and non-palatalized (pharyngealized) affricates. As it is, the Udi distinctions č-čI, č:-čI:, ž-žI, š-šI, do not correspond to anything in other Lezghian languages, and must be considered an Udi innovation.

10. Voiced affricates in PL.

Three personal plural pronouns in Lezghian languages reveal specific correspondences, for which we tentatively reconstruct the PL voiced affricates *ǯ, *ǯʷ and *Ł (*ǯi- "we (excl.)", *ǯʷ[e]- "you", *Łä- "we (incl.)". The reflexes of these sounds are: voiced fricatives (žʷ, *L > l) in Archi; voiceless affricates (or the fricative x) in Tabasaran, <mark>Agul</mark> and Lezghi; voiceless fricatives in Tsakhur; and either voiced fricatives or resonants in Rutul, Kryz, Budukh and Udi. The reconstruction of voiced affricates is probably optimal for these correspondences. The correspondences themselves appear as follows:

PL	Arch	<mark>Ag</mark>	Tab	Lezg	Rut	Tsakh	Kryz	Bud	Ud
*ǯ		č	č	č	ž	š	ž	ž	
*ǯʷ	žʷ	čʷ/ḱ	čʷ	čʷ/kʷ	w	š	w	w	w
*Ł	l	x	x		j		j	j	j

1.8.1.4. Fricatives.

In the PL consonant system the local series of fricatives coincide with the local series of affricates, i.e. we reconstruct hissing, hushing, lateral, uvular and pharyngealized uvular fricatives. Each of these series is characterized by a three-way contrast "lax" — "tense" — "voiced". We must say at once, that voiced fricatives (as well as voiced explosives and affricates, see above) are rather rare phonemes; most of them are met in expressive words. In the lateral series the voiced fricative is not reconstructed at all.

The correspondences of fricatives in descendant languages appear as follows:

PL	Arch	Ag	Tab	Lezg	Rut	Tsakh	Kryz	Bud	Ud
*s	s	s	s	s	s	s	s	s	∅
*sʷ		s(ʷ)	šᵛ	s	s	s	s	s	-šI-
*s:	s:,-s	s/s:	s/s:/z	s/z	s	s,-s:-	s	s,-z	š-,-s-, -s/-c
*s:ʷ	s:,-s	s/s:	šᵛ/žᵛ	s(ʷ)/z(ʷ)/ž(ʷ)	s(ʷ)-,s	s-	s	s-	š-/šI-
*z	z	z	z	z	z	z	z	z	z
*š	š	š	š	š	š	š	š	š	∅
*šʷ	š(ʷ)-,š	-š-	šᵛ	š-	š(ʷ)	š	š	š	-šI-
*š:	š:,-š	š/š:	š/š:/ž	š/ž	š	š,-š:-	š	š,-ž	š-,-čI
*š:ʷ	š(ʷ):-, -š	šʷ/š:ʷ/x́	šᵛ/š:ᵛ/žᵛ	v/f/šʷ	š(ʷ)	?-,-š:-	f	f-,-v	š
*ž	ž		ž	ž	ʒ	ʒ	ʒ		z
*žʷ	žʷ			zʷ	ʒ	ʒ			žI
*λ	λ	x	x/š	x	x	x	x/š	x/š	χ
*λʷ	λ(ʷ)	f	f/x	f/xʷ-	xʷ/f	x(ʷ)	f(/x)	f/x	-f-
*λ:	λ:,-λ	x:	x:/x/š:/š	g/j/ž	x	x,-x:-	x	x	χ
*λ:ʷ	λ:(ʷ), -λʷ	f/f:	f/f:	f/v/ž	xʷ/f	x-,-x:(ʷ)-	f/x(ʷ)	f/x	q-
*χ	χ	χ	χ	χ	χ	χ	χ	χ	∅-,χ
*χʷ	χ(ʷ)	χ(ʷ)	χ(ʷ)	χ(ʷ)	χ	χ(ʷ)	χ	χ	χ-
*χ:	χ:,-χ	χ/χ:/ʁ	χ/χ:/ʁ	χ/ʁ	χ	χ,-χ:-	χ	-χ-	χ/q
*χʷ:	χ:ʷ, -χ(ʷ)	χ(ʷ)/χ:(ʷ)/ʁ(ʷ)	χ(ʷ)/χ:(ʷ)/ʁ(ʷ)	χʷ/ʁ(ʷ)	χ	χʷ-	χʷ-	χ-,- ʁ	χ
*ʁ	ʁ/h	ʁ	ʁ	ʁ	ʁ	ʁ	ʁ	ʁ	h
*ʁʷ	ʁ/h		ʁ(ʷ)	ʁ(ʷ)		ʁ	ʁ	-∅	
*χI	χI	X̀/χI/ħ	χI	χ	χI	χI	χ/ħ	χ/ħ	∅
*χIʷ	-χI	X̀/χI/ħ	-χI	-χ(ʷ)	-χI(ʷ)	-χI	-χ	-χ	
*χ:I	χ:I,-χI	X̀/χI/ʕ	χI/χI:/ʁI	χ/ʁ	χI	χI,-χ:I-	ħ	ħ/ʕ	χ(I)
*χ:Iʷ	χ:I(ʷ),-χIʷ	X̀/χIʷ/ʕ	χ:I/ʁI	χʷ/ʁʷ	χI(ʷ)	χI-,-χ:I-	ħ	(ħ)/ʕ	χ(I)
*ʁI	ʁI	ʁI	ʁI	ʁ	ʁI				

Comments.

1. Laryngeal features of fricatives.

PL lax fricatives are preserved without any changes in all Lezghian languages except Udi. In Udi all PL non-labialized lax fricatives (except the lateral *λ) have given zero reflexes, i.e. fallen out. It is not quite clear why the fricative *λ escaped this fate — probably, it was strengthened and already merged with *λ: in Proto-Udi. However, labialization prevented the disappearance of lax fricatives (cf. PL *sʷ, *šʷ > Ud. šI; PL *χʷ> Ud. χ).

Tense fricatives are at present preserved in the Archi, Agul, Tabasaran and Tsakhur languages. In Archi tense fricatives are preserved in initial and medial positions, but have weakened in final position.

In Agul tense fricatives are preserved in the Koshan dialect; in other dialects

they are already lost ([Magometov 1970] points to the presence of tense fricatives in some more Agul subdialects, particularly, in the subdialect of the village Khpyuk, but we have no data on these subdialects). We must specially mention the reflexes of tense uvular fricatives in Agul proper (Tpig subdialect); here PL *χ: > ʁ, PL *χ:ʷ > ʁʷ, PL *χ:I, *χ:Iʷ > ʕ, i.e. they are voiced.

In Tabasaran tense fricatives have been preserved in the Northern dialect (though not identically in all subdialects; thus the Dübek subdialect has already lost tense fricatives in initial position), but have already been lost in the Southern dialect and in the literary language. In the Northern (to some extent also in the Southern) dialect of Tabasaran, there is a strong tendency to voice PL tense fricatives. Thus in some cases the PL non-initial *s: and *š: are being voiced (*s: only in subdialects of the Northern dialect; the voicing *š: > ž is also encountered in the Southern dialect). PL *s:ʷ and *š:ʷ are regularly voiced in all Tabasaran dialects before the narrow vowels *ɨ, *i (in the Dübek subdialect cases of word-final voicing of *š:ʷ are also attested). PL uvular fricatives in non-initial position are regularly voiced in all Tabasaran dialects (thus, *χ: > ʁ, *χ:ʷ > ʁʷ, *χ:I > ʁI, *χ:Iʷ > *ʁIʷ). The development *χ: > ʁ in initial position occurred only before Tab. u < PL *u, *o (it is worth noting that *χ:I is never voiced in this position). Of all PL fricatives only *λ:, *λ:ʷ are never voiced.

The Tsakhur language only preserves tense fricatives (s:, š:, x:, xʷ:, χ:, χʷ:) in intervocalic position; elsewhere they have been weakened and merged with the reflexes of PL lax fricatives.

Other languages (Lezghi, Rutul, Kryz, Budukh, Udi) have not preserved tense fricatives as such. However, the reflexes of tense fricatives have completely merged with the reflexes of lax ones only in Rutul and Kryz (occasional differences — like the fact that in Kryz the reflex š is attested for PL *šʷ, while f is attested for PL *š:ʷ — are apparently explained by insufficient evidence; we could expect Kryz f from PL *šʷ as well, but all the available examples represent cases of early delabialization *šʷ > *š). As for Lezghi, Budukh and Udi, the reflexes of PL tense and lax fricatives here remain distinct.

In Lezghi tense fricatives, unlike lax ones, can be subject to voicing. Its rules are as follows:

a) Voicing does not occur in the Akhty dialect, where reflexes of tense fricatives usually merge with the reflexes of lax ones. The only exceptions are the PL fricatives *s:ʷ and *λ:ʷ, which may be voiced in the Akhty dialect as well. (The voicing of *s:ʷ occurs before the PL narrow vowels *ɨ, *i; chronologically it probably preceded the voicing of other fricatives, because it represents an isogloss, connecting Lezghi and Tabasaran; on a similar development in Tabasaran see above. The rules of the voicing of *λ:ʷ are unclear — perhaps we are facing interdialectal loanwords). In addition, the voicing of PL lateral *λ: is obligatory.

b) In other dialects, voicing of the PL lateral fricative *λ: and of the uvulars *χ:, *χ:ʷ, *χ:I, *χ:Iʷ is obligatory. PL *s:ʷ, just as in the Akhty dialect, is voiced only before original narrow vowels. The hissing *s: has the voiceless reflex s in all positions in the Kurakh dialect, but is voiced in intervocalic position in the Güne and Yarki dialects (and therefore in the literary language). Labialized PL *š:ʷ and *λ:ʷ in non-initial position, on the other hand, yield voiceless reflexes in all

dialects; in initial position *šᵂ: always develops voiced reflexes, while *λᵂ:, like in the Akhty dialect, reveals a variation between voiced and voiceless reflexes. We cannot establish any rules for PL *š:, whose reflexes may be both voiced and voiceless. Such a complicated scheme of reflexes for PL tense fricatives apparently points to processes of interdialectal influence, active in the Lezghi-speaking area until recently.

In Budukh PL tense fricatives are regularly voiced in final position (*-s: > -z, *-š: > -ž, *-šᵂ: > -w, *-χᵂ: > -ʁ; one should also expect voiced final reflexes of PL *λ:, *λ:ᵂ and *χ:, but reflexes of these phonemes in final position are not attested at all in Budukh). PL pharyngealized *χːI and *χːIᵂ can be voiced in other positions as well, but the rules of distribution for voiced and voiceless reflexes of these two phonemes are unclear due to insufficient evidence.

In Udi the basic difference between the reflexes of tense and lax fricatives is the fact that the former are not dropped (unlike the latter, whose normal reflex in Udi is zero, see above). Udi can also occasionally have affricates in the place of PL tense fricatives (such are the reflexes *-s: > -c; *-š: > -čI; *λ:ᵂ, *χ: > q); in such cases we usually observe a free variation of fricative and affricate reflexes in the same roots in Udi (cf. Ud. *mes / mec* "nest" < PL *mäs:; Ud. *χel / qel* "burden" < PL *χːäl*, etc.). The process of the affricatization of fricatives is rather unusual; still, there is apparently no reason to try to reconstruct affricates in such cases, basing this conclusion on Udi evidence alone.

Voiced fricatives are preserved in all languages (we should note only the affricatization *ž > ǯ in Rutul, Tsakhur and Kryz and the laryngealization *ʁ > ʕ in Archi and Udi languages).

2. Local features of fricatives.

The main change that occurred in all Lezghian languages, except Archi, was the loss of lateral fricatives (on the loss of lateral affricates, see above). This led to the appearance of velar fricatives, not present in the PL system, in most languages. In Udi a further development of the velar x (< *λ, *λ:) into the uvular fricative χ occurred (on the uvular reflexes of lateral affricates in Udi, see above).

PL lax *λ developed into x in Agul, Tabasaran, Lezghi, Rutul, Tsakhur, Kryz and Budukh. In Tabasaran, Kryz and Budukh the palatalization x > š occurred before PL front vowels (cf. Tab. *šubu-b,* Düb. *šibbu-b,* Kryz *šibi-d,* Bud. *šub* "three" < PL *λep:ɨ-*). In Tabasaran this is the usual development (cf. above on a similar affrication of lateral affricates); it is, however, not typical for Kryz and Budukh and characterizes only this phoneme (even PL *λ: in Kryz and Budukh yields only the velar x). A similar development *-λ > -x > -š has occurred in Kryz in final position (in a single example: Kryz *liš* "louse" < PL *loλ(ᵂ)*).

PL tense *λ: yields x: (or x, depending on the dialect and on the position) in Agul, Tabasaran, Tsakhur; in Rutul, Kryz and Budukh only the lax reflex x is present (on the distribution of tense and lax reflexes, see above). In the Koshan dialect of the Agul language the reflexation is unusual: PL *λ: > Kosh. š: in all positions (thus, the tense fricative x: in Agul is preserved as such only in some subdialects of Agul proper, namely, in the Khpyuk and Tsirkhe subdialects; see [Magometov 1970, 23]).

Tabasaran has a regular palatalization *λ: > *x: > š: (š in the Southern dialect) before front vowels.

In Lezghi *λ: yields g (through an intermediate stage of the voiced fricative ɣ, still preserved in the Yarki dialect) before back vowels and ž/j before front ones (the distribution of the latter two reflexes is yet unclear). Thus, the reflexes of *λ: merge here with the reflexes of the PL tense lateral affricate *ƛ: (on the development of which see above).

Pharyngealized fricatives have lost their pharyngealization in Lezghi (though some dialects still preserve it, see above on the reflexes of affricates), Kryz and Budukh. In Lezghi the reflexes of pharyngealized and non-pharyngealized uvular fricatives have completely merged, while in Kryz and Budukh the original pharyngealized fricatives have been laryngealized and transformed into the emphatic laryngeals ħ, ʕ. A fricative reflexation (*χI > Kryz, Bud. χ) is observed only when this fricative was the second component in a medial consonant cluster.

A similar development is observed in Agul. Original pharyngealized fricatives are preserved only in the Fite dialect (where *χI, *χ:I > χI). In the Keren, Koshan and Burkikhan dialects, the pharyngealized fricatives have developed into the pharyngeal X̀ (i.e. *χI, *χ:I > X̀), and the distinction in tensity was lost (in Koshan, usually preserving it, the opposition X̀ — X̀: is absent). However, it is reflected in Agul proper (Tpig), where a further laryngealization happened: *χI > X̀ > ħ, *χ:I > *R̀ > ʕ. It is interesting that PL *ʁI is preserved as ʁI in Agul. This is perhaps an argument in favour of reconstructing in PL not the voiced fricatives *ʁ, *ʁI, but rather the voiced affricates *G, *GI, whose reflexes were subject to independent fricativization in descendant languages. (The fact is that the development *q:I > R̀ that happened in Agul (see above), had apparently passed through the intermediate state ʁI, preserved in the Fite dialect. In this case the original *ʁI and the new *ʁI < *qI: should have inevitably merged. Since this has not happened, it is reasonable to suggest, that in Proto-Agul in the place of PL *q:I there was a fricative like *ʁI, and in the place of PL *ʁI — an affricate like *GI, fricativized already after the *ʁI > R̀ development in Agul dialects). It is possible that PL had here a free variation of the articulations *G/*ʁ and *GI/*ʁI respectively.

Labialized fricatives usually develop similarly to labialized affricates in Lezghian languages, namely:

1) The Archi language preserves all labialized fricatives except the hissing ones (which are always delabialized). Labialized reflexes are not attested for PL *χIʷ, because of the rarity of this phoneme.

2) The Agul language preserves the labialized hissing (sʷ), hushing (šʷ in the Keren and Burkikhan dialects) and uvular fricatives (χʷ, χ:ʷ, ʁʷ). The pharyngealized uvular labialized χIʷ is preserved only in Fite dialect; other dialects have lost the labialization due to the development of pharyngealized uvulars into either pharyngeals or laryngeals (in these local series Agul has no distinction in labialization).

The PL labialized hushing *š:ʷ is reflected as a (bi)labialized consonant only in the Keren and Burkikhan dialects; in the Koshan dialect the dentolabialized š:ᵛ is represented (cf. above on the reflexes of hushing labialized affricates). The Fite dialect

has the velarization *š:ʷ > x́ here, too (just like in the reflexes of affricates). Similar reflexes could be expected from PL lax *šʷ; but in fact, in the available examples we see only the delabialized reflex š (in all dialects). We may, however, note the development of the PL combination *mš in some Agul dialects, where -mhas disappeared, leaving behind the compensatory labialization of the following consonant: cf. PL *ħamš "caraway" > Bursh. *ħamš, but Rich. hašʷ, Burk. (with metathesis) šʷäh, Fite hex́ʷ.

Labialized lateral fricatives in Agul have developed into labiodental fricatives (apparently through an intermediate stage of labiovelars). Thus, PL *λʷ > Ag. f, PL *λ:ʷ > Ag. f:/f. It is interesting that the clusters *-wλ, *-wλ: behave differently. Even in Proto-Agul *λ, in the combination wλ, had been strengthened and developed into *λ:. The Koshan dialect reflects the combination wλ: as a dentolabialized š:ᵛ (unlike *λ:ʷ > Kosh. f:); other dialects have either the normal reflex f (< *λ:ʷ < *wλ:), or x (with the loss of labialization). Cf. PL *jiwλ "snow" > Rich., Fit. ibx, Burk. üx, Bursh. jiš:ᵛ; PL *λ:ʷe "five" > Proto-Ag. *jewλ:i- (restructured by analogy with *jewq̇i- "four") > Rich. Rafu-d (with an unclear R), Fite jüfü-d, Burk. ifa-d, Bursh. jiš:ᵛu-r.

3) In the Tabasaran language the PL hissing and hushing labialized fricatives have merged in a single dentolabialized series (Tab. šᵛ, š:ᵛ, žᵛ). Labialized laterals, as in Agul, developed into dentolabial fricatives (f, f:); there are, however, cases of old delabialization, when *λʷ > *λ > Tab. x.

In the system of labialized back consonants labialization is completely lost in the Northern dialect, but is preserved in the Southern dialect and in the literary language.

4) In Lezghi labialized hissing fricatives are reflected exactly like labialized hissing affricates (see above), i.e. they are preserved in Kurakh, Güne and some subdialects of the Akhty dialect (Khliut), develop into labialized hushing fricatives in most subdialects of the Akhty dialect and yield labialized velars in the Yarki dialect. We must note, however, that such reflexes are only attested for PL *s:ʷ; in the few known cases of reflecting PL *sʷ Lezghi has the delabialized reflex s.

By analogy with the labialized hushing affricates, one would expect the labialized hushing fricatives to be preserved in the Kurakh and Akhty dialects, to develop into hissing labialized in the Güne dialect and into labiovelars in the Yarki dialect. But in reality the labialized hushing *šʷ in the few attested cases has the delabialized reflex š (cf., however, the reflection of the PL cluster *mš, that developed into *šʷ in Proto-Lezghi: PL *ħamš "caraway" > Lezg. lit. if-erar, Nüt. üxʷ-erar.). The reflex šʷ < PL *š:ʷ is observed only in initial position in the Khlyut subdialect of the Akhty dialect (cf. Khl. šʷet "mosquito" < PL *š:ʷäc̣:; otherwise cf. lit. weṭ, Akht. feṭ). The hissing zʷ, as a reflex of *žʷ, is known to us only in the literary language (zʷal "boiling" < PL *žʷal) and apparently represents the Güne development. The Yarki dialect indeed has labiovelar reflexes xʷ/gʷ < PL *š:ʷ. Other dialects (Kurakh, Akhty, Güne) always reflect PL *š:ʷ as a labiodental f or w (on the distribution of voice/voicelessness see above); the same labiodental reflexation is represented in final position in the Khlyut subdialect (cf. lit., Khl., Kur. jif, Nüt. jüxʷ "night" < PL *ʔiš:ʷ).

The labialized lateral *λʷ is usually reflected as labiodental f in all Lezghi

dialects. The labiodental reflex (f or w) is also typical for PL tense *λ:ʷ in most dialects; the Akhty dialect, however, reflects PL *λʷ: as labialized hushing šʷ- (žʷ-) in the initial position (only the Khlyut subdialect has a labiodental reflex here, too). Thus, within the Akhty dialect the reflexes of *λ:ʷ resemble an "inversion" of the reflexes of *š:ʷ, cf.

PL	Akht.	Khlyut subdialect
*λ:ʷ	šʷ-, f	f-, f
*š:ʷ	f-, f	šʷ-, f

(voiced initial variants are not listed in this table).

Uvular fricatives in Lezghi generally preserve the PL labialization quite well.

5) Rutul preserves the labialization of PL *s:ʷ (> Rut. sʷ), *šʷ, *š:ʷ (> Rut. šʷ), *χIʷ, *χ:Iʷ (> Rut. χIʷ). For PL *sʷ, *žʷ, *χʷ and *χ:ʷ only delabialized reflexes are attested. The labialized laterals *λʷ, *λ:ʷ are reflected as xʷ in the Mukhad and Shinaz dialects (in some subdialects of Mukhad dialect, e.g. Luchek, the younger generation already pronounces the labiodental f). The Amsar dialect has a variation xʷ/f. Other Rutul dialects already have only the dentolabial f.

6) The Tsakhur language has preserved only the labialized χʷ, χ:ʷ (< PL *χʷ, *χ:ʷ) and xʷ, x:ʷ (< PL *λʷ, *λ:ʷ), the Gelmets dialect having a variation between xʷ/f and xʷ:/f:. Other PL labialized fricatives are only represented by delabialized reflexes in Tsakhur.

7) In the Kryz language we have attested only the labialized χʷ < PL *χ:ʷ. In the past, however, there were apparently at least labialized hushing and labialized velar fricatives, judging by the development of PL *š:ʷ > Kryz f and PL *λʷ, *λ:ʷ > Kryz f (in the case of early delabialization PL *λʷ, *λ:ʷ can also be reflected as x).

8) Budukh, like Kryz, has specific reflexes of PL *š:ʷ and PL *λʷ, *λ:ʷ (*š:ʷ > Bud. f-, -w; *λ:ʷ, *λʷ > Bud. f). In other cases PL labialization has disappeared in Budukh without any trace.

9) In Udi the only trace of PL labialization is the fact that PL lax labialized fricatives yield non-zero reflexes, while PL lax non-labialized fricatives are dropped. Otherwise Udi has completely lost the distinction in labialization in the system of fricatives (as well as in the system of explosives and affricates, see above).

1.8.1.5. Laryngeals.

We reconstruct three local series of postuvular (laryngeal) consonants for PL: laryngeals proper, pharyngealized laryngeals and emphatic laryngeals. The reconstruction of pharyngealized laryngeals in the second series is quite hypothetic: it is clear only that this was a special series, different both from laryngeals proper and from emphatic laryngeals.

In each local series the binary opposition "explosive : fricative" is reconstructed. A correlation in labialization is also reconstructed in the system of laryngeals. It is interesting, however, that in each local series one can reconstruct only one labialized laryngeal. The   articulation   of   labialized   laryngeals   could

probably vary between explosive and fricative (which explains some specific features of the reflexation of labialized laryngeals). For the purpose of uniformity we reconstruct only explosive labialized laryngeals for PL.

Let us adduce the system of correspondences of laryngeal consonants in Lezghian languages:

PL	Arch	Ag	Tab	Lezg	Rut	Tsakh	Kryz	Bud	Ud
*ʔ	ʔ-,∅	ʔ-/j-, -ʔ/-ʕ	ʔ(/j-)	ʔ-/j-, -ʔ/-∅	ʔ,-∅	ʔ,-∅	ʔ/j-, -ʕ	ʔ-/j-, -ʔ-,-ʕ	ʔ-,∅
*ʔʷ	h	ʔ	ʔ	w-/ʔ-,-ʔ-	ʔ	ʔ	ʕ	ʕ	p
*h	h,-j	h-,-h/-ħ	h	h	h(/j-)	h,-∅(/j-)	h-,ʕ (/ʔ-)	h-,ʕ	h-
*ʔI	j	ʔ-/j-	ʔ-	j-/ʔ-, -q̇/-ʔ	ʔ	ʔ	ʔ	ʔ	ʔ-
*ʔIʷ	j-/w-	ʔ-/j-	ʔ-	w-,-h-	ʔ	ʔ-,-h-	ħ-,-ʔ-	w-	ʔ-
*hI	ʔ-/h-,-j	ʔ-/ʕ-, -ʕ/-ʔ/-ʔ	ʔ	j-(h-) /ʔ-	-ʔ	h-/ʔ-, -hI	ʕ-	h-/ ʔ-ʔ	ʔ-,-∅
*ʡ	ʡI/-,-j	ʕ/ʡ/ʔ	ʡI/ʔ	ʔ-	j-,-∅I	-∅	ʕ-/j-,-ʕ		ʔ-,-∅
*ʡʷ	-hI-	ʕ/ʡ/ʔ		w-/ʔ-	ʡI	ʡI			
*ħ	ʡI-,-∅I	ħ/h	hI/h	h/ʔ	ʔ-/j-,-∅	j-/ʔ-	ʕ-/j-,-ʕ	j-,-ħ	ʡI-

Comments.

1) Archi. Plain laryngeals have been preserved here (with modifications in non-initial position, where the glottal stop ʔ has disappeared, and h > j). The pharyngealized laryngeal *hI has been depharyngealized and apparently merged with *h (but in initial position before back vowels *hI has fallen out, which explains the double reflex ʔ-/h-). The pharyngealized *ʔI has apparently developed into the emphatic *ʕ, which afterwards lost its laryngeal articulation and developed into j (similarly *ʔIʷ > *ʕʷ > w).

After the loss of pharyngealized laryngeals their place was taken by PL emphatic laryngeals that yield pharyngealized reflexes in Archi.

2) Agul. Here labialized laryngeals have merged early with the respective non-labialized ones. Plain laryngeals and emphatic laryngeals are rather well preserved, although, compared with PL, some changes still occurred:

a) in final position PL *ʔ and *h may obtain a secondary emphatization (*ʔ > ʡ, *h > ħ). The development *h > ħ is typical for Koshan, Burkikhan and Agul proper and apparently occurs after front vowels. The conditions of the development *ʔ > ʡ, observed only in Koshan (where the usual reflex of the final *ʔ is -∅), are less clear.

b) The PL emphatic laryngeals *ʡ and *ħ are well preserved in Koshan, Burkikhan and Agul proper (we must note that in Koshan a deemphatization before front vowels

occurred: *ʡ > ʔ, *ħ > h). In the Keren dialect *ħ has been preserved, while *ʡ has been fricativized and developed into ʕ. The Fite dialect has lost the emphatic laryngeals: *ʡ > ʔ and *ħ > h.

PL pharyngealized *ʔI in Agul has been depharyngealized and merged with *ʔ. However, *hI gives specific reflexes here: the Burkikhan dialect has ʕ- in initial position, while others have *ʔ-, i.e. we observe an absolutely unique series of correspondences (cf. above on the reflexes of other laryngeals). In final position *-hI is reflected in the same way as the emphatic laryngeal *-ʡ (i.e. gives Fite -ʔ, Ker. -ʕ, Kosh., Burk. and Agul proper -ʔ). We can suppose that Proto-Agul had a special phoneme *ʕ < PL *hI, which was only preserved in initial position in Burkikhan, while in final position it merged early with the explosive *ʡ.

3. Tabasaran. In the Southern dialect of Tabasaran (and in the literary Tabasaran language) PL laryngeals give the same reflexes as in the Fite dialect of the Agul language (see above). The Northern dialect still preserves the pharyngealized laryngeals ʔI, hI < PL emphatic *ʡ, *ħ in non-initial position.

Labialized laryngeals were delabialized early in Tabasaran, just as in Agul. However, in Proto-Tabasaran a labialized laryngeal *hʷ apparently existed, which originated from a metathesis of labialization and had afterwards developed into w. Cf. PL *ħämč "apple" > Proto-Tab. *hʷäIč > South. wič, North. waIč.

4. Lezghi. Characteristic for Lezghi is the fact that its Northern dialects (as well as the literary language) regularly have w in the place of PL labialized laryngeals; the Akhty dialect usually has ʔ (only sporadically w, probably due to the influence of the literary language). Therefore, at least one labialized laryngeal should have existed as late as in Proto-Lezghi; it yielded w in the Northern and ʔ in the Southern (Central) dialect.

In other respects Lezghi has very much reduced the system of PL laryngeals. Explosive laryngeals are usually reflected as ʔ (though before front vowels sporadically ʔ- > j-), fricatives — as h (though PL *hI, *ħ also yield ʔ or j before front vowels).

We should also dwell on the Lezghi final reflexes of PL *ʡ and *ʔI. In both cases the Akhty dialect regularly has ʔ; in the Northern dialect (as well as in the literary language) the final *-ʡ disappears, while the final *-ʔI yields an unexpected reflex -q̇ (cf. PL *maʔI "fat" > Khl. maʔ, lit. maq̇). Such a development probably points to the presence of two types of explosive laryngeals in Proto-Lezghi (apparently PL *-ʡ > Proto-Lezg. *-ʡ > Akht. -ʔ, North. -∅; PL *-ʔI > Proto-Lezg. *-ʡ > Akht. -ʔ, North. -q̇).

5. Rutul. At the present time there are three laryngeals in Rutul: ʔ, h and ʔI. As in most other languages, PL pharyngealized laryngeals were early depharyngealized here. However, their reflexes have not completely merged with the reflexes of plain laryngeals. It is probable that at first all three pharyngealized laryngeals merged in one phoneme, similar to *ʔI, and only afterwards *ʡI > ʔ. This change must have occurred already after the disappearance of the original *ʡ in final position: cf. *-ʡ >-∅, but *-ʔI > -ʔ.

Emphatic *ʡ and *ħ were apparently lost early. Their main reflexes are ʔ or j in initial position (in the Khnyukh subdialect we may also meet h in the place of *ħ) and ∅, with a possible preservation of pharyngealization, in final position.

The labialized *ʔ^w was apparently preserved longer, though, like other labialized laryngeals, it was subject to the delabialization *ʔ^w > *ʔ. Afterwards, when the pharyngealized *ʔI had been depharyngealized (see above), this *ʔ had taken its place: PL *ʔ^w > *ʔ > Rut. ʔI.

6. Tsakhur. Here we must note the preservation of the phoneme hI < PL *hI (at least in final position). Otherwise Tsakhur reflexes are quite similar to Rutul ones.

7. Kryz and Budukh. Here it is interesting to note the development of PL plain laryngeals into the emphatic ʕ (in some cases, such as the reflex of PL *ʔ and *h in final position, as well as the reflex of the PL labialized *ʔ^w). The PL emphatic laryngeals are generally preserved (although before front vowels they develop into j-); it is worth noting that both *ʔ and *ħ yield the same voiced reflex, ʕ, in Kryz. The pharyngealized *ʔI has lost its pharyngealization and developed into ʔ; however, traces of the original pharyngealization are preserved in the reflexes of PL *ʔI^w and *hI, yielding emphatic ħ and ʕ respectively in Kryz (Budukh has w- and h- here).

8. Udi. Here only the laryngeal h < PL *h is preserved. PL labialized *ʔ^w apparently first developed into *h^w (see above on the possibility of the variation *ʔ^w/*h^w as early as in PL), after which *h^w > Ud. p (see above on the similar development of PL *q̇^w > Ud. p:). All other laryngeals were lost in Udi (i.e. in initial position there is an automatic glottal stop, and in other positions — zero).

1.8.1.6. Consonant clusters.

In PL, as in most modern Lezghian languages, consonant clusters were not allowed in initial position. (Initial clusters existing in modern Lezghi and Tabasaran are secondary, being a result of the reduction of unaccented vowels of the first syllable). However, in the medial and final positions the number of possible clusters was rather large.

Here we will not examine the consonant clusters arising on morpheme boundaries, nor the consonant clusters in verbal roots, but will dwell only upon the development of consonant clusters within nominal root morphemes. These combinations may be divided into two types:

1) Consonant clusters on the syllable borders of a partly or wholly reduplicated morpheme (structures of the type *ʔamʔam, *daldam, *λ^witλ^wil, *čurčul, etc.). In such morphemes virtually any consonant clusters are allowed. Their characteristic feature is their stability: except cases of irregular transformations (in expressive roots), both cluster components develop in the same way as in the isolated position.

2) Consonant clusters within a non-reduplicated morpheme (on the syllable border or at the end of the syllable). Here only "resonant+obstruent" clusters are allowed. In these clusters the first element may be represented by one of the resonants r, l, m, n or w (i.e. the opposition of tenseness-laxness is neutralized here; the correlates of the resonants listed above (j, l:, m:, n:, ṷ) are not attested as first components of clusters). The second component of clusters may be represented by any obstruent except postuvulars (i.e. emphatic laryngeals and plain laryngeals).

There are few rules limiting the freedom of combination of resonants and obstruents (some of them may turn out to be fortuitous and it is possible that the gaps in the place of some clusters will be eventually filled). Here are these limitations:

1) there are no clusters of *w with following front consonants (of the type *wt, *wc, *wč) or with following velar ones (of the type *wk) (absence of the latter is probably accidental);

2) there are no clusters of *n with uvulars (of the type *nq) or labials (of the type *np);

3) there are no clusters of *l with laterals (of the type *lƛ);

4) clusters with labial consonants are in general very rare, and only two types of them are attested: "r+labial" and "m+labial".

No Lezghian language has left the PL system of consonant clusters intact. The main tendency in the development of such clusters is their simplification through the loss of the first component (resonant). One point should be, however, specially discussed: the reconstruction of combinations with the resonant *l.

In modern Lezghian languages, combinations with l as the first component are rather rare. However, we have reason to think that they were much more widespread in PL. The fact is that in most cases PL *l is either lost or changed to r in descendant languages. In such cases (when the reflex l is in fact not preserved in any language) we must reconstruct *l on the basis of system considerations. For example: if we have a correspondence "Tab. -lz: Ag., Lezg., Rut. z" (cf. "tongue": Tab. *melz*, Ag., Lezg. *mez*, Rut. *miz*), the reconstruction of *l in this case is based on Tabasaran evidence, allowing us to suppose that PL *l (at least before hissing consonants) yields Tab. l and Ag., Lezg., Rut. Ø. However, although Tabasaran has the cluster lz (lʒ), a similar combination with the voiceless c (lc) is missing. On the other hand, we know of the correspondence "Tab. rc: Ag., Lezg. c, Rut. s" (cf. Tab. *marc-ar* "clay stove for baking bread", Ag. Bursh. *mac* "fireplace", Lezg. *mac* "a clay shelf over the fireplace", Rut. *mas* "wall"). This correspondence does not allow us to reconstruct PL *rc (in such a case we would expect the preservation of r in Rutul and Lezghi, see below in the table of correspondences). Therefore, one can suppose that in this case we are dealing with the PL cluster *lc, whose development is quite symmetrical to the development of *lc: (i.e. a zero reflex of the resonant in Ag., Lezg. and Rut., but the preservation of the resonant in Tab.); in Tabasaran, however, the further change *lc > rc occurred. As a result of such reasoning, we can reconstruct a large number of PL combinations with the resonant *l, such reconstruction often being confirmed by the data of related Daghestan languages.

The same is true for some clusters with *-n-, where -n- has either disappeared or was denasalized and turned into -r-, and is reconstructed only on basis of system considerations.

Let us now give the system of correspondences of the reconstructed consonant clusters:

PL	Arch	Ag	Tab	Lezg	Rut	Tsakh	Kryz	Bud	Ud
*rp			rp	p			p	p	p
*rt		rt		t	rt	rt	(r)t		
*rt:	t:	rd/d	rd	t:/rt:	d	d	d(r?)	d	d
*rṭ	rṭ	rṭ/ṭ	rṭ	(r)ṭ	ṭ	ṭ	(r)ṭ		(rd)
*rd	rd	rd	rd	rd	rd	rd			
*rc			rs(?)	rc	rc				
*rc:		rz/z	ržᵛ	z	z				
*rç	(nç?)	rç	rç	rç	ç	ç			
*rç:	rç:	rt:	rc:	rṭ		t:			c:
*rs	rs	rs/s	rs/s	rs/s	s		rs	rs	
*rs:	rs:		rs		s	s:			
*rč		rč	rč	rč/č	rč	rč			č
*rč:	č(/rč?)								žI
*rç̌		rç̌	rç̌	rç̌	rç̌		rç̌	rç̌	
*rç̌:	rç̌	rč:	rč:	rç̌	rč				č
*rš~lš		rš	rš						
*rƛ		rx	rš	rg	h				q
*rƛ:	ƛ	rg/r	rɣ	r	ɣ	ɣ	ɣ	j	ʁ
*r�̣	ḳ	rḳ			q̇			q̇	
*r�̣:	ƛ̣	rk:	rk:	ḳ/rḳ	k	k	k	k	q:
*rλ	λ	rf/rx	rx/rf	rx/rf	x				
*rλ:	λ:	rx	rx	rg/g	x				
*rk		rk	rk	rk/k	k		rk	rk	
*rk:	k:	g	rg	(k:)	g	g	g	g	(n)g
*rḳ	ḳ	rḳ	ḳ	rḳ	ḳ	ḳ	ḳ	ḳ	k:
*rq~lq?				rq			rq		
*rq̇	q̇	(r)q̇	rq̇	(rʁ)	q̇	q̇			q̇
*rq:~lq:		rʁ	rʁ						
*rq̇:	q̇:			rq̇	q:		rq		
*rχ:	χ:	rχ(rʁ)	rχ(rʁ)	rʁ(ʁ)				rʁ	
*rqI	l(rχ)	rqI							
*rq̇I	q̇I	rq̇I	(q̇I)		q̇I	q̇I	(r)q̇?		ʁ/h
*rq̇I:		qI:	rqI:	rq	qI		q		q:
*rχI		rχ	rχI	rχ/χ	χI	χI	rχ	rχ	
*lt	rt	t	rt			rt	lt		
*lt:	rt:	rd/d	rd	(t:)	d				(nt:)
*lṭ	rṭ			(ld?)	rṭ	ṭ	ṭ		
*lc		c	rc	c	s				
*lc:	c	z	lz	z	z	z	z	z	z
*lç			rç	ç					
*lč	š	rč	rč	rč	č	č	rč/č	rč	(č)
*lç̌	ç	rç̌	(r)ç̌	ç̌	ç̌	ç̌	ç̌	ç̌	∅
*lč:	č	rʒ/lʒ	rž/lž	č:	ʒ	ž	č?		
*lš:	š:	rš	rž	š	š	š			čI
*lk	rk				rk(I)				
*lk:		lg/rg	rg	rg	rg	rg	rg	(rg)	k:

PL	Arch	Ag	Tab	Lezg	Rut	Tsakh	Kryz	Bud	Ud
*lḳ			rḳ	rḳ	rḳ	rḳ	(r)ḳ		
*lg/lg:	rk:		rž	rg					
*lq̇	(rq̇)	rq̇	rq̇	rq̇	(rq̇)	q̇?			
*lq̇:					lq	lq			
*lχ		rχ	lχ	lχ/χ	rχ	rχ			
*lχ:	rχ:		rʁ	rʁ			rχ	lχ	rχ
*lq̇I		rq̇I/rʔ	lq̇I/rq̇I	rq̇	rq̇I	rq̇I		q̇	
*nt		nt	nt	nt	nt	nt			
*nṭ	nṭ	nṭ	nṭ	nt(ṭ)	nṭ/ṭ	nṭ/ṭ	nṭ	nṭ	t:
*nd			nd	nd	nd		nd		
*nc:	c	nz/rz	rz	rc:					
*nç	ç		nç	nç					
*nč	nč/nž	nč/č	nč(č)	nč	nč		(n)č/nǯ	č/nǯ	(š)
*nλ	(λ)	j	rš/rž	k/ž	j	l	ɣ	j	ʁ
*nƛ:	nƛ	rk:	rk:		k	(k)	k	k	q:
*nλ(ʷ)		f	f	f	rxʷ	rx	f		
*nk	ng						k		
*nḳ	nḳ	nḳ	nḳ	nḳ	nḳ	nḳ	(n)ḳ	nḳ	
*mp	mp	p	mp	p	p	b	p/b	p	
*mp:	m	mb(b)	mb(b)	p:		b			
*mṗ		mṗ	mṗ	ṗ/mp					
*mt	nt	t(rt)			t				
*mṭ	nṭ	ṭ	(mč)	ṭ	(d)	ṭ	ṭ	ṭ	t:
*mc	ns	c(ʷ)	c	c	s	c			s
*mc:	(mz)	bz/wz	mz	kʷ:/cʷ:	ʒ	(ms)	z		z
*mç	mç/nç	(n)ç	(m)c:/ç	(n)ç	ç				
*mç:	mç:/nç:	tʷ:	čʷ:	rt	t	t(ʷ)	t	t	čI
*ms	(mu)s		šʷ						
*ms:			ms/ms:		s				
*mč	nš	č	č	č	č	č	č	č	šI
*mč̣	nč	č̣	č̣	č̣	č̣	č̣	č̣	č̣	
*mš	(mu)š	mš/šʷ		f	š	š			
*mƛ:			mš	w	j		w	w	
*mƛ̣	mḳ	mḳ/ḳ	mḳ/ḳ	q̇/ḳ			q̇	q̇	p:
*mq̇		q̇ʷ	mq̇		q̇				
*mχ	nχ	(mχ)	(mχ)	χ	χ				
*mχ:	nχ:			ʁ			χ		
*mq̇I		mq̇I	mq̇I						
*mk		bk	mk	k			k		
*mk:	bk	gʷ	mg				g	g	
*wλ		bx/šʷ	f	(ž)					
*wƛ̣	bḳ	ḳ/mḳ	wḳ		q̇	ḳ	q̇	q̇	p:
*wq:	bq	bʁʷ/ʁʷ	wq:	qʷ:	ʁʷ	ʁ	ʁ		ʁ
*wq̇	bq̇	q̇(ʷ)	q̇(ʷ)	q̇	q̇	q̇	q̇	q̇	p:
*wχ	bχ			χ					

Note: in the present table we show the combination reflexes of both PL labialized and non-labialized consonants; the behaviour of the resonant in the combination does not depend on the labialization of the following consonant.

1.8.1.7. The development of resonants in verbal roots.

1. The reconstruction of medial resonants in the PL verbal root is very much complicated by the following circumstances:

a) the resonant *r (sometimes *l as well, if develops into r by phonetic rules) can be reinterpreted as a class indicator; this process, for example, led to a nearly complete loss of consonant clusters inside the verbal root in Tabasaran;

b) the resonant *r (as well as *l, if it develops into r by phonetic rules) can be reinterpreted as the durative stem marker. This process is connected with the presence of three main types of conjugation in PL:

1) verbs without any resonant, neither in the durative stem nor in the terminative stem;

2) verbs without any resonant in the terminative stem, but with the infix -r-(possibly -rV-) in the durative stem;

3) verbs with a resonant (*r, *l or *w) in the durative stem as well as in the terminative stem.

We can properly talk about root resonants only concerning the last type of conjugation. However, in this type of conjugation the root resonant *r or *l could be reinterpreted as a durative marker and be lost in the terminative stem by analogy with the second type of conjugation. This process apparently took place in many Lezghian languages (except Agul).

[Let us note that from the historical point of view the proper "resonantless" roots are represented only in the second conjugation type; the first type of verbs in Proto-Daghestan probably contained the resonants -m-, -n-, lost in the PL verbal root. This explains, first, the fact that these roots do not accept the durative indicator -r-, second, that there are no combinations with the first component -m- or -n- in PL verbal root].

As a result of the shown processes medial resonants have been totally lost in Tsakhur.

In Tabasaran and Kryz resonants have been lost as well in most cases. Tabasaran preserves medial resonants only in some verbal derivatives (like *daršʷul* "splinter" < *t:-arsʷ:al*, though *kt-ašʷ-uz* "to rip" < PL *ʔarsʷ:a*, cf. Arch. *ars:a-s* "to cut into pieces"), or in the case of a metathesis of -r- or -l- into the beginning of the root, mostly when the first root vowel is narrow (cf. *ʔirλ:ar* "to paint" > Tab. *rix-uz*, *ʔilχan* "to work"> Tab. *liχ-uz*, etc.).

A similar metathesis is often observed in Agul, though in some dialects the old order may be preserved as well (cf. PL *ʔirq:är* "to freeze" > Rich. *ruʁ-as*, but Tp. *ürʕa-s;* PL *ʔirχʷ:är* "to kill" > Rich.,Tp. *ruk:as,* but Bursh. *urk:as;* PL *ʔilχan* "to work" > Bursh., Tp. *liχanas,* etc.). In other respects Agul is very conservative and preserves well the PL combinations with medial resonants (this conservatism is probably explained by the loss of the system of class agreement and, therefore, the arising possibility of mixing the medial resonant with the class marker in Agul).

In other Lezghian languages combinations with resonants inside the verbal root

generally developed in the same way as in the nominal one (though we must keep in mind the possibility of an irregular loss of the resonant as a result of the processes, described above).

2. Reconstruction of final resonants in the verbal root.

In final position verbal root resonants also develop differently from those in the nominal root. This condition is due to the fact that final consonants in certain verbal forms have a tendency to be reinterpreted as morphological markers (final -r and -l are mixed with the PL durative gerund suffix *-r, *-ri; the final *-n — with terminative gerund suffix *-na. We must take into account that these gerund suffixes could apparently already form certain finite verbal forms in PL and were quite frequent).

Final resonants in verbal roots are completely lost in Tabasaran, Rutul and Udi (according to [Ibragimov 1978] the Borchin-Khinov dialect of Rutul still preserves the traces of PL final resonants, but we do not possess any data from this dialect). Other languages have the following reflexes of PL *-r, *-l and *-n (no other resonants occurred in PL verbs in this position):

1) Archi. Here PL final *-l and *-n have merged in one -n-conjugation. Cf. PL *ʔeχan "to forget" > Arch. eχin- (eχmus); PL *jeṭal "to bind" > Arch. eṭin- (eṭmus), etc. The merger of *-l and *-n-conjugations in Archi (as well as in Agul, see below) was caused by the rarity of -l-conjugation roots and by a formal resemblance between the -l and -n-conjugations, manifested in the presence of the durative infix -l- in both of them (as opposed to -r-, present in the -r-conjugation and in roots without a final resonant).

PL *-r is lost in Archi bisyllabic roots (cf. PL *jatär > Arch. ati-s "to let, to leave"), but preserved in monosyllabic roots (that have lost the PL vowel *i-, see below), cf. *ʔič:ar "to fry" > Arch. čar-as, etc. However, there are cases when -r in monosyllabic roots is reinterpreted as a durative marker and consequently lost in the terminative forms (cf. PL *ʔiçar "to melt" > Arch. ça-s, representing an adequation based on durative çar, etc.).

2) Agul. In Agul proper and in the Koshan dialect the *-l and *-n-conjugations have merged into a single -n-conjugation; in other dialects the n-conjugation is already lost. Cf. PL *jeṭal "to bind" > Bursh. i-l-ṭan-as, Tp. iṭan-as, Rich. iṭ-as; PL *ṭ-iš:Vn "to knead" > Bursh., Tp. ṭišan-as, Rich. ṭiš-as. In a single case the Koshan dialect preserves the final -l, cf. PL *ʔiʔʷäl "to eat" > Bursh. ʔüṭal-as (*-d-ʔ-), but Tp. ʕuṭan-as, Rich. ʕüṭ-as. In some cases in the dialect of Agul proper the old *-n disappears (on the other hand, sometimes a resonantless verb can obtain the n-conjugation in this dialect), which is probably caused by morphological analogy.

All Agul dialects have lost the PL *-r-conjugation.

3) Lezghi. Here the final resonants -n and -r are only preserved sporadically. For *-n cf. PL *ṭiš:Vn > Lezg. ṭušun-iz "to knead, rub"; PL *ʔalcʷ-an > Lezg. alcum-iz "to measure" (< *alcʷan-iz with a metathesis of labialization) and a few others. PL *-r can be preserved only in roots with the PL narrow initial vowel *i, lost in Lezghi (see below), and only in preverbless forms. Cf. PL *ʔilqIar > Lezg. qür-ez "to laugh"; PL *jiçʷar > Lezg. çur-az "to melt" (but with a preverb: el-eç-iz "to melt (metaphorically); be very content", etc. In most cases,   however,

Lezghi has lost the final -r and -n; the final *-l has been lost completely.

4) Tsakhur, Kryz and Budukh.

In Tsakhur and Kryz, PL final *-r, *-l and *-n are preserved best of all. Budukh has preserved PL *-l and *-n well; as for the -r-conjugation, it has merged with the resonantless conjugation (therefore, both PL roots with the final -r and PL roots with a vocalic ending have at the present time an identical paradigm in Budukh).

In one type of cases Tsakhur loses the final -r: in roots with the structure *ʔi(R)Car, obtaining the vowel e in Tsakhur (< PL ablaut grade *ä, see below). Cf. PL *ʔič:ar "to fry" > Tsakh. q-ežes (vs. Lezg. č:ra-z, Kryz žir-äž, Arch. čar-as); PL *ʔiχar "to weave" > Tsakh. q-eχas (vs. Lezg. χra-z, Kryz χɨr-iž, etc.). At the present time it is hard to determine the reason for such a development of this structure in Tsakhur.

Except this regular type, we occasionally observe the loss of *-r and *-n in Tsakhur and Kryz. Cf. PL *ʔirq:er "to freeze" > Tsakh. h-iʁar-as, but Kryz s-aʁ-už; PL *ʔiX̣:an "to want, to love" > Tsakh. ik:an-as, but Kryz ik-äž; PL *ʔ[e]χan "to hang" > Kryz k-eχn-iž, Tsakh. (Tsakhur proper) giwajχan-as, but Mik. ǵɨw-aχ-as. However, these cases are very rare. Normally the evidence of Tsakhur and Kryz is most valuable for reconstructing the PL final resonants in verbal roots.

1.8.2. Vocalism.

For PL we reconstruct a 7-vowel system with three rows (front, mid and back) and three heights (high, mid and low). In the front and back rows all three degrees of height are filled (in the front row: i, e, ä; in the back row — u, o, a). The mid row is defective and represented by a single vowel ɨ, that could probably vary between high and mid.

All vowels could also be pharyngealized (iI, eI, äI, ɨI, uI, oI, aI); usually these vowels occurred adjacent to postvelar pharyngealized consonants, but they were possible in other positions as well. We should note that high pharyngealized vowels are extremely rarely met without adjacent postvelar pharyngealized consonants.

Below we give the system of vocalic correspondences between Lezghian languages. In this table we give only the reflexes of vowels without adjacent labialized consonants (and for pharyngealized vowels — also without adjacent postvelar pharyngealized consonants). Moreover, we will only list the reflexes of vowels in monosyllabic nominal roots, where there is no influence of other vowels. Unfortunately, it is hardly possible to examine all the positional modifications of PL vowels in each Lezghian language in this work. Therefore in this commentary we omit almost everything related to the development of vowels adjacent to labialized consonants, as well as to the modification of vowels in polysyllabic words. Nor will we examine the development of pharyngealized vowels near pharyngealized consonants. We hope to deal with all these questions in a special publication.

PL	Arch	Ag	Tab	Lezg	Rut	Tsakh	Kryz	Bud	Ud
*i	i	i	i	i	i	i	i	i	i
*iI	i	i	e/i	i	i	ɨI/e	e/i	i	?
*e	e/a/i	e/i	e/i	e	i	e	e	e	i
*eI	?	i	e	i	i	?	e	?	?
*ä	a/e	e/i	i	e	ä	e/a	ä/a/e	ə/e	e/a
*äI	aI	e/i/aI	aI/i	e/i	ä	e	e	e	e/a
*ɨ	o	i	i	i	ɨ	ɨ/i	i	i	u
*ɨI	oI	?	(i)	(i)e	?	?	i	e	?
*u	u	u	u	u	u	u	u/ɨ	u	u
*o	o	u	u	u/ɨ	ɨ	ɨ	ɨ	u/ɨ	o/u
*oI	oI/o	uI/u	uI/u	u/i	ɨI/i	ɨI	(i)	ɨ	u
*a	a/o	a	a	a	a	a	ä/a/e	a/e	a
*aI	aI/a	aI/ä/a	aI/a/e	a/e	ä/a	aI/a	e/a,ä	e/a	(a)

Comments

1. PL *i.

This vowel is usually well preserved in Lezghian languages, but appears to be rather unstable if it is adjacent to labialized consonants (the most frequent modification in this position is the labialization i > u, but shifts in height occur as well: e.g., a regular shift i > a after labialized back consonants in Lezghi).

2. PL *iI.

The independent (i.e. not adjacent to a pharyngealized consonant) pharyngealized *iI is extremely rare in PL. We know of only two roots (in both cases there is a labialized hushing consonant before *iI): *č̣ʷiIm: "span" and *č̌ʷiIl- "blue, green". We should note that in the root "span" all the languages except Archi and Rutul (Arch. č̌ʷim, Rut. čub) reflect a non-labialized variant *č̌iIm:, which probably appeared as a result of dissimilation with the final labial consonant.

3. PL *e.

This vowel is preserved without changes in the Lezghi, Tsakhur, Kryz and Budukh languages. In Rutul and Udi, as well as in the Fite dialect of Agul and in the Northern dialect of Tabasaran the reflex is a narrow i (other Agul dialects and the Southern dialect of Tabasaran usually preserve the wide e). In Archi the narrowing e > i, judging by the few examples available, occurs near the resonant l (cf. PL *leʔ "skin" > Archi ili; PL *hIel "steam, breath" > Arch. hil). On the contrary, in some cases PL *e > Arch. a (cf. *ceh "goat" > Arch. caj; *melc: "tongue" > Arch. mac); this is possibly connected with the presence of a hissing consonant near *e. In other cases Archi, too, preserves the vowel e.

In the case of adjacent labialized consonants the vowel *e, as well as *i, can be affected by various modifications. In Archi and Tsakhur the most typical development is *e > o, and in other languages *e > u (in Kryz and Budukh, depending on the consonant environment, a secondary delabialized reflex, ɨ, may appear as well).

4. PL *eI.

The positionally independent pharyngealized *eI, just like *iI, is very rare in PL. It is reconstructed in the roots *p:eIš^w:- "deaf" (cf. <mark>Ag.</mark> *buIrše-f*), *č^weIl "willow" (cf. <mark>Ag.</mark> dial. *čuIl*) and *meIrӼ "deer". In the latter root pharyngealization as such is not preserved in any language, but some specific features of the vowel development (e.g., the narrow i in the Lezghi form *mirg* — a reflex, typical for *e in position near uvular pharyngealized consonants) make the reconstruction of *eI in this root probable.

5. PL *ä.

This phoneme is best preserved in Rutul, where it always yields the reflex ä. In other languages we observe various reflexes:

a) in Archi — front e near back consonants, but back a in other cases (cf. PL *läk- > Arch. *lek:i* "bone", but *Ӽ:äl > Arch. *Ӽal* "lamb", etc.);

b) in <mark>Agul</mark> *ä and *e have merged; thus, in the <mark>Fite</mark> dialect the reflex is i, while other dialects have e;

c) in Tabasaran in all dialects the normal development is *ä > i. We must note that the reflexes of *ä and *i are not completely indistinguishable: in the Northern dialect after the reflexes of lateral consonants, PL *ä yields a wide reflex a, while *i is preserved: cf. *Ӽ:äl "lamb" > Düb. *žal*, but *Ӽ:imč "fear" > Düb. *giči* (the lack of affrication *Ӽ: > ž in the second root is probably caused by dissimilation with the next hushing consonant).

d) in Lezghi, as in <mark>Agul</mark>, the reflex of *ä has merged with the reflex of *e, i.e. usually in all dialects *ä > e;

e) in Tsakhur the most frequent reflex of PL *ä is e. The wide reflex a is observed if there was a resonant n, l or a lateral fricative (> Tsakh. x) before a, in which case the mentioned consonants become palatalized. Cf. PL *Ӽ:äl > Tsakh. *gew* "lamb", PL *s:än > Tsakh. *sen* "year", but PL *näwӼ > Tsakh. *ńaḳ* "dream", PL *läχa > Tsakh. *́laχa* "bracelet", PL *λ:än: > Tsakh. *́xan* "water", etc. The Gelmets dialect has an ä/e variation where Tsakhur proper and Mikik dialects have e.

f) in Kryz PL *ä gives three types of reflexes: back a before r (cf. below on the specific reflexes of *a in this position); e before l, hushing consonants and consonants, going back to PL laterals (i.e. before phonetically palatal or easily palatalized consonants); and ä in other cases. Cf. PL *c:är > Kryz *ʒar* "cow"; PL *Ӽ:äl > Kryz *kel* "lamb"; PL *λ:än: > Kryz *xäd* "water", etc.;

g) Budukh usually has the reflexes e or ə; e is observed in cases when Kryz also has e (cf. Budukh *kel* "lamb" with Kryz *kel* < PL *Ӽ:äl), and ə is observed when Kryz has a and ä (cf. Bud. *zər* "cow" < PL *c:är; Bud. *xəd* "water" < PL *λ:än:, etc.);

h) the most frequent reflex of PL *ä in Udi is e. In two cases we observe the reflex a: PL *Ӽ:äl "lamb" > Ud. *q:al*; PL *mä[rӼ] "handful" > Ud. *maχIa* (although the latter etymology is somewhat dubious). In both cases *ä is adjacent to lateral affricates, but it is not clear whether this was the reason for a specific development of the vowel in these roots (the data is insufficient).

Being adjacent to labialized consonants, PL *ä is somewhat more stable than

the higher *e and *i, but it can also be subject to various modifications (e.g., it can be labialized and develop into o or u).

6. PL *äI.

Without adjacent uvular pharyngealized consonants the vowel *äI is reconstructed in a very small number of roots (still it is more frequent than *iI and *eI): *nälҳ: "milk", *č̣:äIm "butter", *λ:äIm- "liquid", *päIč̣- "light" and possibly in a few more. Pharyngealization is preserved in Archi, Agul (in all dialects except Fite) and Tabasaran (Northern dialect) (on Tsakhur see below). In Agul and Tabasaran the preservation of pharyngealization requires the presence of a labial consonant adjacent to *äI (therefore, in the root *nälҳ: "milk" neither of these languages preserve pharyngealization); even if the labial is present, pharyngealization may still disappear in an unaccented syllable. In the same position pharyngealization is preserved in Tsakhur, judging by the form *xiImaI-n "liquid" — probably a reduction < *ҳaImaI-n < *λ:äIm-.

As for the qualitative development of PL *äI, we must say that when pharyngealization is preserved, the reflexes of *äI merge with the reflexes of *aI (see below), and in case of its loss — with the reflexes of *ä (see above).

7. PL *ɨ.

This vowel is preserved in Rutul and, though somewhat worse, in Tsakhur (there *ɨ develops into i near hissing and hushing consonants; ɨ can be sporadically preserved in this position only in the Gelmets dialect, and in the root sɨwa "mountain" (PL *sɨwa) in all Tsakhur dialects; the vowel in this root behaves not quite regularly in other languages as well). In the Agul, Tabasaran, Lezghi, Kryz and Budukh languages, *ɨ has been fronted and has developed into i (the vowel ɨ, present in Lezghi dialects, Kryz and Budukh, has another source, see below). In Archi and Udi *ɨ was subject to a secondary labialization (Arch. o, Ud. u).

If adjacent labialized consonants are present, the vowel *ɨ turns out to be extremely unstable and most often develops into u (some other modifications of *ɨ also occur in this position).

8. PL *ɨI.

An independent pharyngealized *ɨI may be reconstructed only in one root: PL *pɨImp/*p̣ɨImp̣ "knee, corner" (cf. the pharyngealization in Archi poImp). Though this root preserves pharyngealization only in Archi, some specific features of reflexation (e in the Akhty form p̣ep̣ while the literary Lezghi has p̣ip̣; e in Budukh pep; lack of labialization *ɨ > u in Kryz pip — PL *ɨ before labial consonants is usually reflected as u in Kryz) confirm the reconstruction of a specific PL phoneme here.

9. PL *u.

This vowel is well preserved in all Lezghian languages (except near hushing consonants, where it is often fronted and delabialized). We must specially note the development of *u in Kryz and Budukh. In Kryz u is preserved only near back consonants; near hushing consonants and laryngeals, as well as after some fricatives

(lateral and uvular) *u > i; in other cases *u is reflected as ɨ. In Budukh, reflexes of the third type are unknown (because of the lack of data), and in the first two cases, reflexes are the same as in Kryz. Cf. *q̇ula "board" > Kryz, Bud. q̇ul; *ruk: "dust, earth" > Kryz, Bud. rug; *čun: "flea" > Kryz., Bud. čid; *ruš: "girl, daughter" > Kryz. riš, Bud. riž; PL *ṭur > Kryz ṭɨr "pimple"; PL *rup: > Kryz. rɨb "needle", etc.

The pharyngealized correlate of PL *u is attested only near uvular pharyngealized consonants; therefore, an independent phoneme *uI is lacking in PL.

10. PL *o.

The original vowel *o has been preserved only in Archi (possibly also in Udi, where, however, in addition to o we observe the reflex u, and sometimes even a — there is not enough evidence to establish the distribution between these reflexes). In Tabasaran, Agul and the Northern dialects of Lezghi (as well as in literary Lezghi) PL *o has narrowed and merged with *u, so that the reflexes of *o and *u are completely identical in the mentioned languages. In Rutul and Tsakhur, as well as in the Central and Southern dialects of Lezghi, the vowel *o has been delabialized and has developed into ɨ (however, it has completely merged with the original *ɨ only in Rutul; in Tsakhur and Lezghi the original *ɨ — in Tsakhur at least in some positions, and in Lezghi in all cases — has fronted and developed into i even earlier, see above). In Proto-Shakhdag (the proto-language of Kryz and Budukh) PL *o has developed into *ɨ near back consonants, but has preserved labialization and developed into *u near front consonants. This situation is preserved in Budukh; in Kryz the further delabialization *u > ɨ occurred adjacent to front consonants (that affected PL *u as well, see above). Thus, in Kryz PL *o is most often reflected as ɨ (except some modifications near hushing and lateral fricatives). Cf. PL *X̣:ola > Kryz kɨl "arm", Bud. kɨla "shoulder"; PL *moX̣:or > Kryz mɨgɨr, Bud. jumur "wooden ladder"; PL *ṭona > Kryz ṭɨn, Bud. ṭun "trough", etc.

11. PL *oI.

The independent pharyngealized *oI is reconstructed in several roots: *s:oIla "fox", *poIr- "saddle", *t:oIt:- "larynx, gullet", *s:oIl "rye" (in the latter root we should probably reconstruct a variation oI~o, as well as in the root *qI:ol ~ *q:ol "wheat"). This vowel preserves pharyngealization in Tsakhur, somewhat more poorly — in Archi, Agul and Rutul, where independent pharyngealization is at present inadmissible near hissing consonants. We should note that the pharyngealized ɨI in the Rutul form (Khn. pɨlpɨlr "saddle" < PL *poIr-) is the only case of preservation of independent pharyngealization in Rutul known to us. In other languages pharyngealization of *oI has not been preserved, but the reflexes of *oI are somewhat different from the reflexes of the plain *o in quality. A detailed examination of the reflexes of *oI is, unfortunately, impossible in this book.

12. PL *a.

This vowel is well preserved in all languages, and it is less subject to

positional modifications than other vowels. In particular, the vowel *a is usually well preserved adjacent to labialized consonants, where other vowels (especially *i, *e) are very unstable. We should specially note the following features of the development of PL *a:

a) in Archi, besides the usual reflex a, in some cases we observe the reflex o. The development *a > o occurs regularly in the case of metathesis in the structure *CV, cf. PL *çaj > *ça > Arch. oç "fire"; PL *s:a > Arch. os "one"; PL *λ:aj > *λ:a > Arch. oλ "wool", etc. (Such metathesis in the *CV structure also occurs if other vowels are present in this structure, cf. PL *χuj > *χu > Arch. uχ "field", etc., but other vowels do not modify their quality in the case of metathesis). The reflex o is also present in Archi as a result of the transfer of labialization from a following lateral consonant (cf. *marλ^w > Arch. moλ "foam"). There are also individual cases of the correspondence "Arch. o : a in other Lezghian languages", even if the conditions mentioned above are not met (cf. PL *dagij "donkey" > Arch. dogi; PL *t:alk:- "(eye)lid" > Arch. dorki), but we do not consider it necessary to reconstruct a specific PL vowel in this case (first of all, because the there are very few examples and because only Archi has a specific reflex here).

b) in the central dialects of Lezghi (e.g. in Akhty) two a-type vowels are observed: a more open a and a closed a. Both of these vowels correspond to the vowel a of other Lezghian languages. We do not exclude the possibility of a prosodic origin of this difference in Lezghi; however, this problem requires special examination.

c) in Kryz PL *a has a triple reflection: a, e and ä. The first reflex is present after all uvular consonants except q̇- and after the emhatic laryngeal ʕ- (cf. PL *χal > Kryz χal "roof, ceiling"; PL *hIamχ "sweat" > Kryz ʕaq̇, etc.); before the uvular -ʁ, as well as before the resonants -r, -w (in the latter case there can be a development a > o before -w), cf. PL *čaʁa > Kryz čaʁ "jackdaw", PL *maq: > Kryz maʁ "ploughshare", PL *wiraq: > Kryz wiraʁ "sun", PL *t:ar > Kryz dar "tree", PL *c:aw > Kryz ʒaw "sky" (Al. zow), etc. The second reflex (e) is present after hushing consonants and j-, cf. PL *čal: "tongue, word" > Kryz čel; PL *č:ar > Kryz žer "cream"; PL *jaχ: "meat" > Kryz jek, etc. The same reflex is present in Kryz eb "wolf" < PL *ʔIam: (i.e. after the laryngeal *ʔI-). In all other cases PL *a yields Kryz ä, cf. PL *çaj > Kryz çä "fire"; PL *k:aš > Kryz gäš "famine"; PL *χan > Kryz q̇än "bottom"; PL *raχ:a > Kryz räk "door", etc.

d) in Budukh after hushing consonants and j- we observe the reflex e, the same as in Kryz (cf. čel "tongue, word", jek "meat", etc.). In other cases Budukh usually has the reflex a, though we may sometimes meet ə. The distribution of the two latter variants still requires some additional examination.

13. PL *aI.

This is the most frequent of PL pharyngealized vowels. It preserves its pharyngealization in Archi, Agul (in the Keren and Burkikhan dialects), Tabasaran (Northern dialect) and Tsakhur. The presence of adjacent labial consonants is favourable for the preservation of the pharyngealization of *aI. If this condition is missing, pharyngealization can disappear in the mentioned languages as well (we will not go into details of the disappearance or preservation of pharyngealization here). The loss of pharyngealization often leads to the fronting *aI > ä,

and, further, ä > e; therefore, the reflexes of *aI are easy to distinguish from the reflexes of PL *a, even if pharyngealization is not preserved in descendant languages.

1.8.2.1. The development of vocalism in verbal roots.

In PL verbal roots the set of vowels was smaller than in nominal ones; first, there were no narrow vowels *ɨ, *u; second, there were no independent pharyngealized vowels. Therefore, in the first syllable of PL verbal roots we only meet the vowels *i, *e, *ä, *o and *a. Their reflexes generally coincide with their reflexes in nominal roots, though there are some differences. Let us relate the most important ones:

1. Since most PL verbal roots are bisyllabic, the vowel of the first syllable is often reduced or modified under the influence of the following vowel. This is most obvious in Budukh, where the system of vowels of the first syllable in verbal roots has been totally rebuilt under the influence of the vowels of the second syllable.

The only PL narrow vowel allowed in the first syllable of the verbal root, *i, is very often subject to reduction and may disappear completely. This process (*i > ∅), facilitated by the fact that the initial vowel of PL verbal roots was usually preceded by a laryngeal (most often *ʔ-), which in this case disappeared itself, led to a total loss of initial i- in verbal roots in Archi (cf. *ʔič:ar- "to roast" > Arch. čara-s; *ʔiλ:ɨ- "to give" > Arch. λo-s, etc.). In Archi i- is preserved only in a few roots with a medial combination of consonants (like *ʔilχan "to work" > Arch. irχʷmus). Sporadic cases of the same development are present in Tabasaran and Agul, very rarely — in Rutul, Kryz and Budukh. The only language, in which *iis never reduced, is Tsakhur.

This tendency to reduce the vowel of the first syllable has reached its maximum in the Lezghi language, where in preverbless forms all PL vowels except *a are reduced. Cf. PL *ʔič:ar- "to roast" > Lezg. č:ura-z; PL *ʔec:a- "to pour" > Lezg. c:a-z; PL *ʔäχa- "to break" > Lezg. χa-z; PL *ʔotʷ:a- > Lezg. tʷ:a-z "to shave"; but PL *ʔac:a- > Lezg. ac:a-z "to milk", PL *ʔaṭʷɨ- > Lezg. aṭu-z "to tear, to cut", etc.

2. In the PL verbal system there was a productive system of ablaut (see below). Often a certain grade of ablaut spread over the whole verbal paradigm in descendant languages. As a result of this, regular vowel correspondences in verbal roots can be violated.

There are some more specific features of the reflexation of PL vowels in verbal roots in separate Lezghian languages, but their detailed examination is impossible in this work.

1.8.2.2. Ablaut.

Many nominal and verbal roots in modern Lezghian languages reveal paradigmatic vowel alternations, not conditioned by position (ablaut). Since these alternations, as a rule, correspond to each other in different Lezghian languages, it seems possible to trace them back to Proto-Lezghian.

1.8.2.2.1. Nominal ablaut.

Vowel alternations are only observed in roots with the structure CV(R)C(V). One should probably reconstruct the following types of ablaut for PL:

1. *a/*o.

This type of ablaut is comparatively rare. It is directly reflected in a very few Tabasaran and Agul paradigms of the type Tab. χal "house" — loc. χulaʔ, pl. χular "house", Ag. χal — erg. χula, pl. χular (PL *χal, obl. stem *χola-). In Rutul this type of ablaut gave rise to the paradigm γal "mouth" — erg. γɨlir (PL *λ:al, obl. stem *λ:olV-); however, in most cases the ablaut type *a/*o in Rutul has been mixed with the more widespread type *ä/*i (see below), as a result of which paradigms like jak — erg. jigɨr "meat", rat — erg. ridir "threshing-floor", rak — erg. rigir "door" appeared.

The PL ablaut *a/*o should apparently be reconstructed in the paradigm *çaj "fire" — obl. stem *çojɨ-; cf. Lezg. lit. çaj — erg. çu, Khl. çaj — erg. jɨçɨ (metathesis < *çɨjɨ-); Rut. çaj — erg. çɨ-r; Kryz çä — erg. çɨ-r. (The Tabasaran and Agul forms in this case reflect a contraction of the oblique stem: Tab. çi-, Ag. çi-).

Traces of *a/*o ablaut may be found in some adjective roots. Cf. Arch. q̇las-kes "to get tired", Rut. q̇las-dɨ "old", Tsakh. q̇las:-n "old" < PL *q̇las:-, but Ag. q̇luse-f, Lezg. q̇üzü, Kryz q̇usä "old" < PL *q̇los:-, and some others.

The main vowel in this type of ablaut is always *a, replaced by *o in the oblique stem; no inverse correlation has been discovered (i.e., nouns with *o in the direct stem never replace it with *a in the oblique one).

2. *ä/*i.

This type of ablaut is attested in Rutul, Tsakhur and Kryz; at the present time it is no longer productive, and paradigms with this alternation reveal a strong tendency towards unification. In other languages traces of this ablaut seem to have been lost (the Agul (Koshan) paradigms of the type neṭ "nit" — obl. stem niṭani-, pl. niṭ-ar can be explained by the narrowing of e > i in a preaccented syllable; see above on the development of *ä in Agul).

For Rutul, Tsakhur and Kryz cf. the following cases of *ä/*i:

PL *ħämč "apple", obl. stem *ħimča-; Rut. äč, erg. ič-ir-.

PL *λ:äl "lamb", obl. stem *λ:ila-; Rut. gäl, erg. gil-ir-ɨr; Kryz kel, erg. kili-ǯ.

PL *q̇äl "salt", obl. stem *q̇ila-: Rut. q:äl, erg. q̇ilir; Kryz q̇el, erg. q̇iliǯ.

PL *räq̇I "road", obl. stem *riq̇I:ɨ-: Rut. raq̇I, erg. rɨq̇I:ir (the backward shift of pharyngealized *äI, *iI is regular in Rutul); Tsakhur dialectal paradigms with different directions of unification also indirectly reflect ablaut — cf. Tsakh., Mik. jaq̇I, obl. stem jaq̇I:ɨ- vs. Gelm. jɨq̇I, jɨq̇I:a-.

PL *c:är "cow", obl. stem *c:ira-: Rut. zär, erg. zirɨr; Kryz ʒar, erg. ʒɨrɨǯ (apparently an adequation of vocalism < *ʒirɨǯ, or else a transition into the

ablaut type *a/*o as a result of the development *ä > a in the direct stem).

PL *λ:äm:- "nail", obl. stem *λ:im:-: Rut. *xäb,* erg. *xibɨlɨr* (a rather obscure development in Tsakh. Mik. *xɨwna,* Gelm. *xɨbɨna*).

PL *λ:än:* "water", obl. stem *λ:in:ɨ-:* Rut. *xäd,* erg. *xijir;* Tsakh. Mik., Gelm. *x́an,* obl. stem *xine-,* Gelm. *x́an,* obl. stem *xini-;* Kryz. *xäd,* erg. *xižiž.* The uniform presence of the vowel i in oblique stems of Tabasaran (Düb. *šit:i-,* Kand. *št:u- < *šidu-*), Agul (Rich. *xit:a-,* Bursh. *š:iri-,* Fite *xit:i-*) and Lezghi (Khl. *jic:i,* lit. *c:i < *jic:i*) should be most probably considered a reflection of the same ancient ablaut.

PL *näIX̌:* "milk", obl. stem *nilX̌:-;* Tsakh. Mik. *ńak,* obl. stem *nik-ne-.*

PL *näq^w* "chaff": Tsakh. Mik. *ńaq^w,* obl. stem *ńuq-ne-* (< *niq^w-ne-*).

PL *näwX̌* "dream", obl. stem *niwX̌[a]-:* Tsakh. *ńak,* obl. stem *nikɨ-.*

PL *mä[rƛ]* "handful", obl. stem *mi[rƛ]-:* Kryz *mek,* erg. *mikiž.*

PL *χ:äl* "burden", obl. stem *χ:il-:* Kryz *χel,* erg. *χiliž.*

It is not to be excluded that the ablaut *ä/*i can explain some cases in Agul and Tabasaran when, in the place of PL *ä, we find reflexes of *i. Cf. PL *λ:äl:* "track" > Ag. Rich., Burk. *xil* (instead of *xel*), Bursh. *š:il* (instead of *š:el*), Tab. Khür. *š:il* (instead of *š:al*) — cf. regular forms — Lezg. *gel,* Rut. *xäl.* Cf. also the Kryz doublet *xel* "track" — *xil* "furrow", apparently representing the "split" of a single old paradigm "dir. stem *λ:äl: — obl. stem *λ:il:a-"; apparently, the Agul and Tabasaran forms, given above, are explained by an adequation to this oblique stem. A similar adequation probably explains Ag. Tp. *χil* "wing" (instead of *χIal < PL *χäl,* cf. Tab. *χil* "sleeve", Lezg. *χel* "branch; sleeve"; Kryz *χel-xäž* "sleeve"); Ag. Rich. *nirX̀* "spelt" (instead of *nerX̀ < PL *närχIʷ-,* cf. Lezg. *neχʷ,* Rut. *naχIʷ,* Tab. *nurχI*), and some other cases.

3. Other types of ablaut.

In Archi and Kryz a small number of nominal roots reveal vowel alternations that cannot be traced back either to *a/*o or to *ä/*i. We mean the Archi ablaut a/e in cases like *naq̇ʷ* "earth" — erg. *neq̇ʷi* (PL *näq̇ʷ;* the form *neq̇ʷi* cannot go back to the PL oblique stem *niq̇ʷ-,* on which, see above) and the Kryz ablaut e/i in cases like *mez* "tongue" — obl. stem *miz-* (PL *melc:;* other languages do not point to the existence of an ablaut type *e/*i).

Both of these phenomena are probably local innovations. The alternation a/e in the place of PL *ä in Archi should perhaps be explained by an old positional development *ä > e before front vowels of the next syllable. (Thus it turns out that nominal Archi roots do not reflect any PL ablaut at all; all Archi paradigms are adequated to the direct stem). The Kryz ablaut e/i in the place of PL *e has probably appeared by analogy with e/i < PL *ä/*i already after the merger (in some positions, see above) of the reflexes of PL *e and *ä. In any case, by now we do not possess any data that could serve as an argument for the archaism of the Archi and Kryz evidence.

1.8.2.2.2. Verbal ablaut.

In verbal roots, as well as in nominal ones, some Lezghian languages reveal vowel alternations (ablaut) in the 2nd position. We can reconstruct two main types of ablaut:

1. *i/*ä/*ɨ.

This type of ablaut is reflected in Archi, Rutul, Tsakhur and Kryz. Cf. in Archi (where *i- > ∅-, see above):

kar-as "to lead, to accompany" — dur. *orkir,* term. *oka* (*i/*ɨ)

χ:e-s "to carry" — dur. *orχ:ir,* term. *oχ:a* (*i/*ɨ)

qIe-s "to go" — dur. *orqIir,* term. *oqIa* — *herqIa-s* "to walk" (*i/*ɨ/*ä) (cf. also *qIa* — term. from *aλis* "to come")

λo-s "to give" — *oλa-s* "to sell" (*i/*ɨ)

λummus "to pull" — *oλmus* "to (be) pull(ed) out" (*i/*ɨ)

ġa atis "to seat smbd." — *oġi-s* "to mount (a horse)" — *eġi-s* "to be, to exist" (*"to sit", cf. also *ġeIġi-s* "to sit" < *ġaI eġi-s) (*i/*ɨ/*ä)

šeI-s "to start running" — *heIršaIs* "to run" (*i/*ä)

ču-bus "to enter" — *ača-s* "to hide" (*i/*ä)

In Rutul:

k-uč^w a-s "to begin" (*-ič^w e-) / *k-äč^w a-s* "to begin; to enter" (*-äč^w a-) — cf. the Archi pair *ču-bus*/ *ača-s* (*i/*ä)

h-iġa-s "to be ripe" — *l-ä-j-ġa-s* "to mature" (*i/*ä)

jiġe-s "to die" — term. sg. *jiġi-r,* but pl. *l-irġi-r* (*i/*ɨ)

s-uġ^w a-s / *s-iġ^w a-s* "to sit" — a parallel plural form *s-ɨlġIa-s* (vs the more common *s-ulġ^w e-s*) (*i/*ɨ)

In Tsakhur many verbs with the root vowel i reveal the alternation i/e (i in the terminative stem, e in the durative stem), developed from PL *i/*ä. Cf. *ʔič-es* "to enter" — dur. *ʔeče;* *al-iš:-es* "to buy" — dur. *il-eš:-e;* *q-iḳ-as* "to die" — dur. *q-eḳ-a;* *h-iχ^w-as* "to run away" — dur. *h-eχ^w-a;* *al-iḳ:-as* "to make smbd. do smth." — dur. *il-eḳ:-a,* etc. Traces of the grade *ɨ in Tsakhur verbal paradigms are hard to discover (cf., however, the paradigm: *ixe-s* "to become, to be born" — dur. *exe* — term. *ɨxa*).

In Kryz many verbs with PL root *i replace it with ä (*xij-iž* "to be" — imp. *s-äx;* *ġäj-iž* "to die" — imp. *s-äġ;* *kur-iž* "to stab" — imp. *s-äkɨr;* *žir-iž* "to roast" — imp. *s-äžir,* etc. Traces of the grade *ɨ in Kryz are hard to discover because of the merger of the reflexes of PL *i and *ɨ (see above).

All this evidence allows us to suppose that in the paradigms of verbs with the root vowel *i in PL, the vowel *i characterized the infinitive and terminative stems, while the vowel *ä characterized the durative stem.

This situation is well preserved in Tsakhur. In Archi this semantic opposition is seen in "split" paradigms, cf. *šeI-s* "to start running" — *heIršaI-s* "to run" (cf. also the terminative form of *šeI-s* — *šaI);* *qIe-s* "to go" — *herqIa-s* "to walk" — *qIa* "has come" (at present *qIa* is already part of another, suppletive paradigm of the verb *aλi-s* "to come").

The meaning of forms with the grade *ɨ is harder to determine. We should probably start from Rutul evidence, where in a few cases the forms with ɨ are used in the plural (both in durative and in terminative). In Archi this usage is lost, and

forms with o (< PL *ɨ) have either supplanted other forms of the durative and terminative (cf. the terminative *oqIa* from *qIe-s,* probably with an old plural meaning, while the normal terminative *qIa* moved into another paradigm) or formed separate paradigms with various modified meanings (cf. *ƛo-s — oƛa-s, ƛummus — oƛmus, q̇a atis — oq̇is*).

The use of the grade *ä in imperative forms in Kryz is somewhat strange (the imperative is usually formed from the terminative stem); however, we may suppose that the PL imperative was not strictly tied to any particular aspect, but could be formed from the durative as well as from the terminative (with a later redistribution: the imperative began to be formed only from the terminative stem, and the prohibitive — only from the durative stem).

Though the ablaut *i/*ä/*ɨ is no longer productive in any language, its traces may be discovered in many verbal roots; the generalization of one of the grades of this ablaut often leads either to the split of verbal paradigms or to the violation of regular correspondences.

Let us stress once more that *ɨ could not occur as an independent vowel in the 2nd position in the PL verb. It is encountered in this position only as a grade of the ablaut *i/*ɨ. On the contrary, verbs with the independent root vowel *ä are rather numerous.

2. *a/*i.

This type of ablaut is at present productive only in the Northern dialect of the Tabasaran language, where the grade a characterizes the infinitive and the terminative stems, and the grade i — the durative stem. Cf. Düb. *a-w-q-us* "to fall" — dur. *i-w-q- ur-, ald-a-w-ṭ-us* "to cut down" — dur. *ild-i-w-ṭ-ur-*, etc. The same type of ablaut probably explains the Tsakhur a/i alternation in verbs of the -r-, -land -n- conjugations, such as *s-aḳal-es* "to return" — dur. *s-īḳal,* etc. (though this Tsakhur type also includes verbs with other PL vowels as a result of rather complicated modifications and unifications of paradigms).

In the past this type of ablaut was probably more productive. Cf. Arch. *aç:ar* "to be ill" (durative form; other forms are not preserved in Archi) and the Rut. derived *jad:al* "illness, pain", pointing to the existence of a PL form of the root *ʔaç:a-,* vs. the Tab. durative *ic:ru xuz* "to be ill" and the forms of other languages, pointing to the vowel *i: Ag. *it:ar xas* "to be ill", Lezg. *ṭa-z* "to ail", Kryz *tit-äž* "to nag". It is evident that for this (and some other similar cases) we must suppose a PL paradigm: term. *ʔaç:a-:,* dur. *ʔiç:a-,* unified afterwards in individual languages in one of the two directions. Cf. also the following cases:

PL *ʔasa(n):* Arch. *asa-s* "to put on"; Tab. Düb. *a-w-s-us* "to smear", *k-a-w-s-us* "to stick" (dur. *i-w-s-ur-, k-i-w-s-ur-*); Lezg. *hal-s-iz* "to put on with some effort"; Tsakh. *ǵ-ajsan-as* "to close (not the door)"; Kryz *q:-isn-iž* (with generalization of i) "to dress oneself".

PL *ʔarq̇:ä* "to see, to look": Tab. Düb. *a-w-qI:-us* (dur. *i-w-qI:-ur-*) "to see"; Ag. Bursh. *raqI:a-s;* Rut. *g-aq:a-s* "to observe, to look"; Ud. *boвIa-esun* "to be found"; in Kryz — split into two paradigms: *w-aq-už* "to find; to graze, to guard", but *i-r-q-äž* "to see" (= Bud. *irqi* "to see").

3. Other types of ablaut.

There seem to be some reasons for reconstructing a third type of PL ablaut, that is, *ä/*i (i.e., inverse to the type *i/*ä, see above). Traces of this ablaut are found in Kryz, cf. the following two verbs: *jäh-äž* "to skin" — dur. *jih-ri* (? cf. Tab. *a-r-χI-uz* "to pick", Ag. Bursh. *arX̀a-s* "to shear", Rut. *a-j- χI-as* "to pick" — probably < PL *(j)ärχIa); *c-äʕ-äž* "to throw", *q:-äʕ-äž* "to pursue" — dur. *c-iʕ-ri, q:-iʕ-ri* (PL *ʔlähi). Cf. also PL *ʔäc:a* "to sow, to plough" > Kryz *j-iz-äž;* the vowel -i- here can point to the unification of an earlier *ä/*i alternation. However, outside Kryz we could not find any secure traces of the ablaut *ä/*i.

The PL vowels *e, *o were apparently never part of any ablaut gradations.

1.8.2.3. Final vocalism.

1.8.2.3.1. Auslaut in nominal roots.

The reconstruction of the nominal auslaut in PL is rather complicated and closely connected with morphological problems. In all modern Lezghian languages most nominal roots in the direct stem (nominative stem) end with a consonant. The only exception is the Dübek subdialect of Tabasaran, in which many nominal roots end with a vowel. This is a result of the secondary addition of final vowels after historically tense consonants. In these cases the final vowel always imitates the preceding root vowel.

A comparatively small number of roots with vocalic endings in individual languages (cf. Arch. *dogi,* Tab. *daži,* Ag. *degi* "donkey"; Arch. *maλ:i* "winter pasture", Ag. Tsirkh. *max:i,* Rut. Ikhr. *mexi* "stable", etc.) are explained by the loss of the final -j (cf. its restoration before endings beginning with a vowel: Tab. *daži* "donkey" — erg. *dažiji,* etc.).

In certain cases some languages have a vocalic auslaut, others have a consonantal one. Cf. Lezg. *nisi,* Rut. *nisä,* Tsakh. *nis:e,* Kryz *nisi,* Bud. *nusu* "cheese" vs. Tab., Ag. *nis.* These cases should probably be explained by a *-j / *-∅ variation in PL (j-forms for this root are found in Tsakh. Gelm. *nis:ej,* as well as in the oblique stems: Tsakh. *nis:eji-,* Rut. *nisiji-*). For the root *maλ:ij,* given above, cf. also the form of Ag. Bursh. *max:* "stable" without the final -j. Such cases are rather few, and they do not form any obvious system. We may only suppose the existence of a PL suffix -j (the meaning of which is at present hard to determine), optionally added to some nominal roots.

If we discard such cases, some phenomena that require interpretation still remain. Namely:

1) Tsakhur has a large number of nominal roots, ending with -a (more rarely -e, -ä). In other languages these roots regularly have a consonantal auslaut.

2) Many languages insert vowels between the last consonant of the nominal root and the case/number suffix. The quality of these vowels is often impossible to

predict. This situation is characteristic for Agul, Tabassaran, Rutul, Tsakhur, and, to some extent, also in Archi. Thus, the problem of reconstructing the PL oblique base arises (we certainly do not regard here cases, in which the oblique base is formed in another way — by adding suffixes such as *-t:e-, *-ra-, etc., to the direct base.)

The last vowel of the oblique stem of the noun is interpreted in modern languages as a connecting element between the root and the suffix and is therefore subject to various analogical and phonetic modifications. In Archi, Kryz, Budukh and Udi these processes were so active that all vocalic distinctions in this position became neutralized (Archi has preserved only a few archaic oblique stems, while in most cases the last vowel of the oblique stem is automatically predicted by the root vowel). In Agul, Tabasaran, Lezghi, Rutul and Tsakhur the end of the oblique stem is also subject to rather significant modifications; generally these modifications are caused either by phonological factors (the influence of root vowels), or by morphological factors (analogy, leading to statistical prevalence of a certain vocalic end and resulting in the elimination of other types of oblique stems). Still, after discarding evident innovations, there is a significant number of archaic vocalic oblique stems left in these languages, and they can serve as a basis for reconstructing the PL system.

For PL we reconstruct four types of nominal oblique stems, which apparently should be interpreted as, respectively, *e, *ä, *ɨ and *a-stems. The correspondences are as follows:

PL	Lezg	Rut	Tsakh	Tab	Ag
*-e	-i/-u	-i/-ɨ	-e/-a	-i/-a	-i/-u
*-ä	-e/-a	-ä/-a	-ä(-e)/-a	-i/-u	-i/-a
*-ɨ	-i/-u	-i/-ɨ/-u	-i/-ɨ	-i/-u	-i/-u/-a
*-a	-e/-a	-ä/-a;-i/-i	-e/-a	-a	-a

Comments.

1. In Lezghi there are two basic types of oblique stems: roots with front vowels can form the oblique base in -i or -e, and roots with back vowels — in -u or -a. (There are also stems ending in -ü, but they are only formed from roots with the vowel -ü- or from roots with -e- followed by a labialized consonant: cf. *ʁür* — *ʁürü* "flour", *neχʷ* — *neχü* "spelt", etc. No other vocalic stems can be formed from roots like this; therefore, stems ending with -ü are irrelevant for comparison). Thus, in Lezghi stems in -u and -a are back correlates of front stems ending in -i and -e, respectively.

As we see from the table, the Lezghi -i/-u-stems have developed from PL stems in *-e and *-ɨ (in both cases the back -u, which is represented in central dialects as -ɨ, must be considered secondary, having developed under the influence of the back root vowel); the Lezghi -e/-a-stems have developed from PL stems in *-ä and *-a. Probably, at first *-ä > -e and *-a > -a, and only afterwards synharmonistic variants appeared: -e changed to -a after a back root vowel, and -a changed to -e after a front root vowel.

2. Rutul also has two main types of oblique stems: stems ending in -i/-ɨ/-u and stems in -a/-ä. The distribution of variants inside each of these two types is generally similar to Lezghi, i.e. the choice of front or back vowels usually depends on the character of the root vowel. However, unlike Lezghi, this distribution is somewhat complicated by the fact that the vowel of the oblique stem interacts with the root vowel in a different way, depending on its accent. In addition, the palatality of the final consonant of the root plays a part as well. A detailed examination of the Rutul distribution is, unfortunately, impossible here. It is also important to mention that stems with root ablaut (on which see above) can end only with -ɨ or -i (usually -ɨ if the accent stays on the root, and -i if the accent is shifted) and are therefore irrelevant for external comparison.

Rutul stems in -i/-ɨ/-u, as we see from the table, have developed from PL stems in *-e and *-ɨ — a development very similar to the one described above for Lezghi. Stems in *-ä and in *-a are reflected in Rutul as -a/-ä-stems — also similarly to Lezghi. We must, however, say that *-a-bases yield this reflex only when the accent shifts to the last vowel of the oblique stem; if the accent is preserved on the root, PL *-a-stems are reflected as -i/-ɨ-stems in Rutul. Cf. PL *q̇ʷila- "cliff, rock" > Rut. q̇ulá-, but *p:aIl:a- "forehead" > Rut. bắli-, etc.

3. Among Tsakhur dialects the most archaic situation is represented in the Gelmets dialect, the data of which we will utilize here (the Tsakhur proper and Mikik dialects reveal substantial innovations). Here there are two main types of oblique stems: in -i/-ɨ and in -e/-a. Unlike Lezghi and Rutul, the front and back variants in Tsakhur are generally distributed depending not on the root vowel, but on the final root consonant (as a rule, with palatal final consonants and -n we observe stems ending with -i and -e, and with non-palatal final consonants — stems with -ɨ and -a, respectively). The Tsakhur -i/-ɨ-stems have developed from PL stems in *-ɨ, and the Tsakhur -e/-a-stems — from PL stems in *-e and *-a. Thus, PL *-e > Tsakh. -e with a secondary variant -a after non-palatal consonants; PL *-ɨ > Tsakh. -ɨ with a secondary variant -i after palatal consonants; PL *-a > Tsakh. -a with a secondary variant -e after palatal consonants. We must also note that if the root contains labialized vowels, the final -ɨ and -a in Tsakhur may change to labialized -u and -o, respectively.

PL *-ä-stems have a specific reflex in Tsakhur. Here the vowel is preserved not only in the oblique stem, but in the direct stem as well. One has therefore to suppose that PL here had a final vowel in the direct stem as well, and that this vowel was preserved in Tsakhur, but lost in all other Lezghian languages. In Tsakhur this vowel is usually reflected as -a (the variant -ä appears after hushing consonants and -j-< *-r-). The fact that PL *-r- changed to -j- here, except after a back -u- (cf. *qI:ora "hare" > Gelm. ʁIɨjä, *cʷ:era "urine" > Gelm. zojä, etc.) tells us that this vowel was pronounced as *-ä after -r- and hushing consonants already in Proto-Tsakhur. In other cases, however, the vowel *-a was pronounced (cf., e.g., the development -l- > -w- in this position: *s:oIla > Tsakh. sɨIwa "fox", etc., as well as the preservation of -r- after a back vowel -u-: sura "part", çura "belt (ornament)" etc. The data of other languages (cf. the front reflex -i in <mark>Agul</mark> and Tabasaran, as opposed to the single back reflex -a of the PL *-a-stems) obviously favours the reconstruction of *-ä in the oblique stem. Nouns belonging to

this type in PL probably had a final *-a in the direct stem, replaced by *-ä in the oblique one. This reconstruction seems to give a satisfactory explanation to all presented facts.

4. In Tabasaran and Agul the back and front reflexes are, as a rule, complementarily distributed, depending on the root vowel (more seldom this distribution is influenced by the final consonant of the root). A detailed description of inner Agul and Tabasaran distributions would take us too far (it is sufficient to say that virtually every dialect of Agul and Tabasaran has its own rules of distribution, often seriously differing from other dialects). In Agul and Tabasaran the process of the analogical modification of oblique stems was more active than in other Lezghian languages, and is still active even now (in both languages -a-stems are apparently becoming more and more productive, while other types of oblique stems are gradually being eliminated). The procedure of detecting archaic oblique stems in Agul and Tabasaran requires a detailed description, which we are not able to give in the present book.

1.8.2.3.2. Auslaut of adjective and numeral roots.

Adjectives (in other terminology — stative verbs) reveal relevant vocalic distinctions in auslaut in Archi (-∅-stems vs. -a-stems), in the Southern dialect of Tabasaran (-u-stems and -i-stems) and in Tsakhur (-i/-ɨ/-u-stems, with a phonetic distribution of the three variants, vs. -a-stems). In other languages the auslaut of adjectives has been completely or almost completely morphologized and reduced to some single vowel, at present interpreted as an adjective marker.

Among Archi, Tabasaran and Tsakhur we observe the following correspondences, that allow us to reconstruct two types of auslaut of adjective roots (*-ä and *-ɨ) for PL:

PL	Arch	Tab	Tsakh
*-ä	-a	-i	-a
*-ɨ	-∅	-u	-i/-ɨ/-u

In bisyllabic numerals an *-ä-stem is reconstructed for the numeral *menλ:ä- "eight" (cf. Arch. meλe, Tab. mirži-b; Tsakhur has moli-lle instead of *mole-lle, due to the influence of other numerals). In the numerals "three", "four", "six", "seven", "nine", "ten" we reconstruct an *-ɨ-stem (*λep:ɨ-, *jewǫɨ-, *riλɨ-, *ųirλ:ɨ-, *ųilč̌ʷɨ-, *ųiçɨ-: cf. Arch. λeb, ebǫ, diλ, wiλ, uč̌, wiç; Tab. šubu-b, juǫu-b, jirxu-b, urgu-b, urč̌ʷu-b, jiçu-b; Tsakh. xibi-lle, joǫu-lle, jixɨ-lle, jigɨ-lle, jič̌u-lle, jiçɨ-lle).

We must note that, although adjective auslaut has been unified in all languages except Archi, Tabasaran and Tsakhur, numerals proved to be more conservative. The distinction between -ɨ and -ä-stems is here also preserved in Agul (cf. xibu-d 3, jaǫu-d 4, jarču-d 9, içu-d 10, but muja-d 8) and in Rutul (cf. xibɨ-d 3, juǫu-d 4, rixɨ-d 6, jiwɨ-d 7, huču-d 9, jiçɨ-d 10, but mɨje-d 8).

In monosyllabic roots *s:a 1, *ǫIʷä 2, *λʷ:e 5, *ǫ:a 20 vowels behave as usual. The numeral *waIlš: "hundred" behaves as a noun; its oblique stem is unknown

(judging by the Tsakhur (Gelm.) genitive *waĪš:e-n* it is either an *-a- or an *-e-stem).

1.8.2.3.3. Auslaut of verbal roots.

The distinctions of final vowels in verbal roots are completely neutralized in Tabasaran, most dialects of Agul (except Koshan), Tsakhur, Kryz and Udi. Let us describe the distinctions attested in other languages.

1. Archi.
Here in bisyllabic verbal roots the following types of auslaut exist:
a) -a in infinitive, -a in durative. Cf. *aca-s* "to milk", dur. *aca-r.*
b) -a in infinitive, -u in durative. Cf. *aḳa-s* "to pursue", dur. *arḳu-r.*
c) -i in infinitive and in durative. Cf. *ati-s* "to let", dur. *arti-r.*
A very rare type with the vowel -u in both the infinitive and the durative (*ak:u-s* "to see", dur. *ak:u-r*) is probably a variant of the last type, where -u < *-i as a result of the transfer of labialization from the root consonant (*ak:u-s < *akʷ:i-s*).
In bisyllabic roots of the -n-conjugation vowel distinctions are neutralized (the vowel is reduced in the infinitive before the suffix *-bos, while the durative stem always has an -i-, cf. *asmus* "to measure" < **as(i)n-bos,* dur. *arsin-,* term. *asn-i < *asn-t:e,* etc.).
Monosyllabic verbal roots (going back to PL roots with *i-) have three types of auslaut as well: in -a (*ca-s* "to praise"), in -o (*ƛo-s* "to give") and in -e (*χ:e-s* "to carry away"). Two verbal roots have a unique final -i: *ḳi-s* "to die", *χʷi-s* "to die out" (but in the durative: *ḳa-r, χʷa-l*).
In monosyllabic roots of the -r and -n-conjugations, vowel distinctions are neutralized: before the resonant in a non-reduplicated durative form such roots have -a- (with secondary positional modifications, cf. *čar-as* "to roast", dur. *čar,* term. *čere < *čar-t:e; ƛummus* "to pull" < **ƛan-bos,* dur. *ƛan,* term. *ƛenne < *ƛan-t:e*); in a reduplicated durative form they have -e- (*χ:ummus* "to weave" < **χ:an-bos,* dur. *χ:emχ:in*).

2. Agul (Koshan dialect, Burshag village).
Here verbal roots of the resonantless conjugation distinguish between two basic vocalic types of auslaut: in -a (*ruχa-s* "to be born", *aq:a-s* "to take", *ʔäš:a-s* "to cry", etc.) and in -i (*ürʕi-s* "to freeze", *argi-s* "to return", *aṭi-s* "to dig", etc.). While comparing Agul with other languages one has to consider the following distribution: in Agul all verbs with roots ending in hissing consonants (except a few roots with a back rounded vowel) belong to the -i-conjugation. Cf. *iči-s* "to melt", *at:-azi-s* "to be spilt", *awa-j-s:i-s* "to catch", *q-azi-s* "to push", *ači-s* "to (be) fill(ed)", *k:it:-isi-s* "to be silent", *ici-s* "to roast grain", etc. (but with the vowel -u-: *ʕa-w-za-s* "to get up", *aʕ-za-s* "to stand" (**aʁ-uza-s,* cf. Fite *aʁ-uzas*), *uza-s* "to plough", *uca-s* "to mow").
In verbs of the -n-conjugation in Agul, as in Archi, vocalic distinctions of

final vowels are neutralized (all such roots end in -an, cf. *dalqan-as* "to rock", *ilṭan-as* "to bind", *ṭišan-as* "to rub", *ʔülč:an-as* "to wash", etc.).

3. Lezghi.

In Lezghi, except the so-called "regular" type of conjugation (that contains historical compounds of verbal nouns and inflected forms of the verb *iji-z* "to do, to make"), the following types of auslaut occur:

a) -a in the infinitive, -a in the past tense (cf. *g-ata-z, g-ata-na* "to beat"; *čuχʷa-z, čuχʷa-na* "to scratch"). A variant of this type is the type with -e: *reʁʷe-z, reʁʷe-na* "to grind", etc. (the fronting of the vowel happens in the case of PL pharyngealization, as well as near labialized hushing consonants, which yield either velar or hissing reflexes in dialects);

b) -u in the infinitive, -a in the past tense (cf. *aṭu-z, aṭa-na* "to cut", *gu-z, ga-na* "to give", etc.). The fronted correlate of this type is the type -ü/-e (cf. *χü-z, χʷe-na* "to take care of", etc.);

c) -i in the infinitive, -a in the past tense (cf. *g-aṭi-z, g-aṭa-na* "to rot", *eḳi-z, aḳa-na* "to get stuck", etc.). The fronted correlate of this type is the type -i/-e (cf. *w-ehi-z, w-ehe-na* "to throw"; *fi-z, fe-na* "to go", *k-xi-z, k-xe-na* "to write", etc.), though in this case the phonetical causes of the split of these two subtypes are less evident. Still, the distinction between -a and -e in the past tense base hardly reflects any PL differences in this case;

d) -a in the infinitive, -u in the past tense (cf. *ta-z, tu-na* "to leave"; *akʷ:a-z, ak:u-na* "to see", etc.). The fronted correlate of this type is unknown to us.

In addition to the above-mentioned types there is a single verb with a stem ending in -u both in the infinitive and in the past tense: *q:-aču-z, q:-aču-na* "to take, to buy" (and the derived verbs — *q:-aχ-ču-z, waχ-ču-z* "to take away").

In the Lezghi masdar nearly all distinctions of final vowels are neutralized. It usually ends in -un in verbs of the types -a/-a, -u/-a, -i/-a, -a/-u. Only a small number of verbs of the fronted types -i/-e, -e/-e have a masdar ending in -in (*k-xin* "to write", *fin* "to go" and some others).

4. Rutul.

Here verbal roots have three types of auslaut:

a) -a in the stem of the present tense and the infinitive (sg. and pl.), -ɨ in the stem of the past tense (sg. and pl.). Cf. *h-aça-s* "to know", dur. *h-aça-r,* term. *h-açɨ-r.* If the root consonant is labialized, there is -u instead of -ɨ (cf. *h-arcʷa-s,* term. *h-arcu-r* "to measure" etc.).

b) -e in the stem of the present tense (sg. and pl.) and the infinitive, -i in the stem of the past tense (sg. and pl.). Cf. *j-iχe-s* "to carry", dur. *j-iχe-r,* term. *j-iχi-r.*

c) -a in the stem of the present tense singular, but -e in the stem of the present tense plural, and, respectively, -ɨ (-u in case of labialization) in the stem of the past tense singular, but -i in the stem of the past tense plural. Cf. *s-ata-s* "to leave", dur. sg. *s-a-l-ta-r,* but pl. *s-a-l-te-r;* term. sg. *s-a-l-tɨ-r,* but pl. *s-a-l-ti-r.*

However, after closer examination it appears that the two latter types are complementarily distributed: type b) is observed, if the root has a front first vowel, and type c) — if the root has a back vowel (a, u). Besides, all verbal roots ending with a hushing consonant can only belong to the type b), not a) or c). Thus, Rutul actually has two types of verbal auslaut:

1) -a/-ɨ (independent from the first root vowel);

2) -e/-i, realized in this way only if the root has a first front vowel; otherwise the auslaut -e/-i is preserved in plural forms, but coincides with the type -a/-ɨ in singular forms.

The comparison of auslaut vowels in verbal roots of individual Lezghian languages allows us to reconstruct four types of PL vowels in the last position. They should apparently be interpreted as *-e, *-ä, *-ɨ and *-a (see above, page 170, on the similar four types of nominal oblique stems).

1. Stems in *-e.
The correspondences here appear as follows:

Arch	Ag	Lezg	Rut
-e/-i	-i	-i	-e

Archi has -e in monosyllabic roots (going back to PL roots with initial *i-), but -i in bisyllabic ones. The phonetic reasons for this distribution are evident: the vowel -e has been narrowed (*-e >-i) in a postaccented syllable (most bisyllabic verbal roots in Archi are accented on the first syllable, and in the postaccented position the wide vowels e, o are not observed in Archi, except rare cases when they occur in contracted forms or loanwords). In one case Archi has -i in a monosyllabic root (ƙi-s "to die", see below). The reasons for this are unclear (it is not to be excluded that in this root we should reconstruct a unique PL final *-i, but Archi evidence alone is not sufficient for such a solution). A second Archi verb in -i, χʷi-s "to die out", unfortunately, has no parallels in the Agul, Lezghi or Rutul languages.

2. Stems in *-ä.
This type of stems yields the following correspondences in descendant languages:

Arch	Ag	Lezg		Rut
-i	-a	inf. -a, past -u		-e

In monosyllabic Archi roots we would also expect a reflex -e (as in the first type), but actually in the single case available we have -a (X̣:ʷa-s, see below). The reconstruction *-ä is dictated, first, by the front character of Archi and Rutul reflexes, second — by the reflex -a- in Lezghi and Agul. The Lezghi past tense in -u in this type (-ɨ in the Akhty dialect), must probably be explained by old ablaut (missing in stems ending with -a). This ablaut, however, is reflected only in Lezghi.

In two cases Archi has an -a-stem instead of the expected -i-stem: PL *ʔaq̇:ä- > Arch. *aq̇:a-s* (dur. -a-r) "to leave"; PL *ʔaχär- "to lie, to sleep" > Arch. *aχa-s* (dur. -a-r). The reasons for this irregularity are unclear.

3. Stems in *-ɨ.
These stems reveal the following correspondences:

Arch	Ag	Lezg	Rut
inf. -a/-o, dur. -u/-o	-i	-i/-u	-a

Archi has the reflex -o in monosyllabic roots (PL roots beginning in *i-) and reflexes -a/-u — in bisyllabic ones. It is evident that in the postaccented syllable a narrowing occurred, normal for Archi: (PL *-ɨ) > Arch. -o > -u. In the infinitive stem, the final vowel was apparently changed to -a- by analogy with the more widespread -a-stems. It is interesting that even the original labialization of root consonants regularly disappears in this type, which confirms the fact that the unification of infinitive stems occurred later in Archi than the development *Cʷɨ > *C(ʷ)o > *-Cu in the postaccented syllable.

In Lezghi the reflex -u is observed if the root consonant was originally labialized, the reflex -i — without such labialization. While explaining the reflex -a in Rutul, we should keep in mind that -i-stems are absent in modern Rutul; the a-conjugation is mixed, forms with -a being typical for the present tense, forms with -ɨ — for the past tense. It is evident that old *-ɨ and *-a-stems in Rutul underwent a secondary redistribution, having merged in a single conjugation type, including both forms in -ɨ and forms in -a.

The normal reflex of *-ɨ in Agul is -i. However, in some roots with a labialized root consonant we observe an irregular reflex -a (but these roots are very few, compared to the number of roots with the regular reflex -i).

4. Stems in *-a.
This type of stems is the most common in PL. Here we see the following correspondences:

Arch	Ag	Lezg	Rut
inf. -a, dur. -a/-u	-a	-a	-a

In Archi, labialization of root consonants in this type is preserved only in monosyllabic roots (that have lost PL *i-). In bisyllabic roots labialization is lost, but is preserved as the vowel -u in the durative (nonlabialized roots have -a in the durative stem). Therefore, roots ending in *-a with a labialized root consonant in Archi are reflected in the same way as roots ending with *-ɨ (see above).

Other languages usually preserve -a-stems without any changes.

1.8.2.3.3.1. Vowel alternations in the end of verbal roots.

The final vowels of verbal roots, as well as the initial ones, could apparently alternate in PL. There is some reasons for reconstructing two main types of ablaut in this position:

1. *-a/*-ɨ ablaut (possibly *-a/*-o, see below).

This type of ablaut was characteristic for *-a-stems. It is directly reflected in Archi. Cf. *aca-s* "to milk", dur. *aca-r,* but term. *acu < *aco <*ʔac:ɨ;* thus, the vowel -o < *-ɨ in Archi characterizes the terminative stem of verbs having an -a-stem in other forms. The same ablaut in Rutul serves to differentiate the stem of the present tense from the stem of the past tense (pres. -a, past -ɨ). As we have already shown, the merger of the forms of *-a-stems and *-ɨ-stems (with no ablaut) in the past tense in Rutul led to a general merger of -ɨ and -a-stems (i.e. the vowel -a was generalized in all the forms of the present tense, even in the original *-ɨ-stems).

It is, however, not to be excluded that in this case we should reconstruct not the ablaut *a/*ɨ, but the ablaut *a/*o, cf. -u-forms of -a-stems in Agul: Bursh. *aġa-s* "to make", past ger. *aġu-na,* etc. The Archi and Rutul evidence is ambiguous (*ɨ and *o had merged in these languages).

2. *-ä/*-a ablaut.

This type of ablaut was apparently only characteristic of roots with the first vowel *i (which, as was shown above, could itself alternate with *ä and *o). Forms with *-ä were probably used for the finalis (infinitive) stem, and forms with *-a — for the durative and terminative stems (as well as for the plural forms with -o-). This kind of ablaut is suggested by some evidence from Archi and Rutul. Cf. Arch. *šeI-s* "to start running" (*hišä) — terminative *šaI* (*hiša) — durative *hä-r-ša-r,* which served as a base for the formation of a new paradigm heIršaI-s "to run"; similarly *qIe-s* "to go" (*ʔiq:Iʷä-) — term. *qIa* "has come" (*ʔiq:Iʷa) durative *[ʔ]ä-r-q:Iʷa-r,* whence *herqIa-s* "to walk" — terminative (probably, old plural) *oqIa* "went" (*ʔoq:Iʷa), etc. (Archi contains a rather large number of such paradigms, irregular from the synchronistic point of view; they are often split into several paradigms, with new forms being built by analogy.

In Rutul we may point out the following cases: *s-uġʷa-* "to sit" with a parallel form *s-iġʷa-s* (*-iġʷe-/*-iġʷa-), cf. also the plural form *s-i-l-ġIa-r* (< *-oġIa- with a pharyngealization of unclear origin; cf. Arch. *ġa atis* "to seat smbd." < *ʔiġ(ʷ)a, ġIejġis* "to sit" < *ġIa eġi-s < *ʔiġI(ʷ)a ʔäġ(ʷ)ä-s* with a similar pharyngealization in *ʔiġI(ʷ)a); Rut. *k-uč̣ʷa-s* "to begin" (root *-uč̣ʷe < *ʔič̣ʷä,* cf. pl. *k-u-l-č̣ʷe-s) / k-äč̣ʷa-s* (*ʔič̣ʷä-) "id." (root *-äč̣ʷa-) — cf. Arch. *ču-bus* "to enter", dur. *ču-r* = Rut. *-uč̣ʷe-,* cf. also imperative *če* (labialization in the latter form is lost in an open syllable), but *ača-s* "to hide", dur. *arču-r < *ʔä-r-č̣ʷa-r* = Rut. *-äč̣ʷa-,* etc.

The situation is somewhat complicated by the fact that durative forms of such *-ä-stems could apparently have parallel auslauts: -a, as well as the normal -ä. Cf., on a par with Archi archaic durative forms *heIršaI-r, herqIa-r,* apparently also archaic duratives *šeIrši-r, heqIi-r* (cf. also with o-: *orqIi-r*), etc. It is most

probable that in PL the ablaut *-ä/*-a was already unproductive and that the grade -a was actively being supplanted by the normal grade -ä (by analogy with the infinitive stem and, perhaps, some other forms as well). All these facts present some difficulties for reconstruction; however, we should once more emphasize that this type of ablaut can be postulated only for verbal roots with the initial *i.

3. Other types of ablaut.

At least for one root we may postulate the ablaut *-e/*-a, similar to the ablaut *-ä/*-a: PL *ʔirX̣e "to die", cf. Arch. dur. ḳa-r, term. ḳa (infin. ḳi-s), Rut. pl. stem -irq̇a (vs. the normal one — -iq̇e-).

Modern languages have also some other types of final vowel alternations (cf. Rut. -e/-i in -e-stems; Lezg. -a/-u in stems going back to PL *-ä-stems and some others), that apparently should not be projected on the PL level (although their origin is not always clear).

1.8.2.3.3.2. On the reflection of final vowels in verbal roots of the Budukh language.

After this section was already complete, we obtained an opportunity to look through the materials on the Budukh verbal system. In Budukh there are conjugation types with the following vowel alternations: -u/-ə, -u/-i, -a/-i, -a/-a, -i/-i, -i/-ə and -u/-u. These types reveal the following correlations with the reconstructed PL types of verbal auslaut:

a) the type -u/-ə goes back to PL *-a-stems (PL ablaut *-o/*-a);

b) the types -u/-i and -a/-i go back to PL *-ä-stems (PL Ablaut *-a/*-ä), the -a/-i type being observed in intransitive verbs, and the -u/-i type in transitive ones. Apparently the -u grade of ablaut is secondary here, borrowed from the 1st type of conjugation.

c) -a/-a and -i/-i types have developed from PL *-e-stems, the -i/-i type being characteristic for intransitive verbs, and the -a/-a type — for transitive ones. This is possibly a result of splitting the -a/-i type, which would be a normal reflex of the PL ablaut *-a/-*-e (for the suggestion of such an ablaut type, see above).

d) types -i/-ə and -u/-u go back to PL *-i-stems, the -u/-u type being phonetically conditioned by labialization of the root consonant. The presence of the grade -ə in Budukh is not quite clear here, because other Lezghian languages do not show any ablaut in this type of stems. This may be an archaism, preserved only in the Budukh language.

Thus, the Budukh system of final vowel alternations in the verb confirms, in general, the reconstruction outlined above and provides us with valuable evidence for reconstructing individual PL verbal roots.

1.8.2.3.4. Accentuation.

We know very little about PL accentuation as of yet. In modern Lezghian languages there is either no accent (as in Kryz and most Tsakhur dialects), or it is extremely

morphologized or phonologized (i.e. the rules of accentuation of the word-form depend on its morphemic and phonemic content — such is the situation in Archi, Agul, Tabasaran and Lezghi). Independent distinctions in the place of accent may be discovered only in Rutul (in nouns; the positioning of accent in the verb is yet unclear), in the Gelmets dialect of Tsakhur, and, possibly, in the Tabasaran verbal system. Archi has a rather strict system of accentuation rules both in verbal and in nominal word-forms; rare deviations (of which the most significant is the unpredictability of accent in bisyllabic nominal roots) are probably archaic.

In the '70s the MSU expeditions have discovered tonal systems in some Lezghian languages (in the Northern dialect of Tabasaran, in Tsakhur, Kryz and Budukh). The number of tones ranges from two to four (two — in Budukh, three — in Kryz, four — in the Northern dialect of Tabasaran and in Tsakhur). It is possible that the afore-mentioned non-standard accent systems in Rutul and in the Gelmets dialect of Tsakhur, as well as accent archaisms in Archi, are reflections of the PL tonal system. Unfortunately, we do not yet possess the systematic tonal records of any Lezghian language except Kryz; therefore we cannot yet talk about the reconstruction of PL tones. We can, however, expect some progress in the nearest future.

1.9. Khinalug.

In spite of the fact that this language is often included in the Lezghian group (see, e.g.,[Talibov 1980]), there are no serious reasons for this; the impression that Khinalug is especially close to Lezghian languages arises apparently because of a rather large number of loanwords from the neighbouring Kryz and Budukh languages (probably from Proto-Shakhdagh as well). Multiple specific phonetic and lexical features of Khinalug (on the development of Khinalug phonemes from PEC, see above) clearly distinguish it from Lezghian languages, as a separate branch of East Caucasian.

In general there is less data on Khinalug than on other North Caucasian languages (in fact only comparatively small lexical lists, given in the works [Kibrik-Kodzasov-Olovyannikova 1972, Kibrik-Kodzasov 1988, 1990]. Therefore, many specific features of Khinalug reflexation are still unclear: there are many gaps in the reflexes of PEC consonants, uncertainties in establishing the behaviour of vowels, the Khinalug reflexation of the verbal root is completely unexamined, the Khinalug prosodic system has not been described. All these problems still expect their investigation.